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Please distribute to the following:

100/300 AREA UNIT MANAGER MEETING
ATTENDANCE AND DISTRIBUTION

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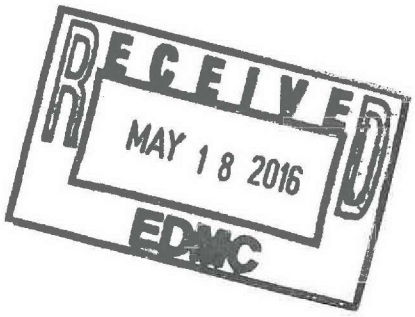
Guzzetti, Chris	Guzzetti.Christopher@epa.gov	A3-46	EPA
Hadley, Karl A	karl.hadley@wch-rcc.com	H4-21	WCH

NOTE FOR ADMIN RECORD:
TPA Milestones
M-015-79
M-016-00C
M-016-143
M-016-173
M-016-175
M-016-176
M-016-177
M-016-178
M-016-181
M-016-186
M-093-27
M-093-28



Operable Units
100-BC-1
100-BC-2
100-BC-5
100-FR-3
100-HR-3
100-IU-2
100-IU-6
100-KR-4
100-NR-2
300-FF-5

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100/300 AREA UNIT MANAGERS MEETING
APPROVAL OF MEETING MINUTES

April 14, 2016

APPROVAL: _____ Date 5/12/16
Mark French, DOE/RL (A6-38)
River Corridor Project Manager

APPROVAL: _____ Date 5/12/16
Mike Cline, DOE/RL (A5-11)
Groundwater Project Manager

APPROVAL: _____ Date 5/12/16
Nina Menard, Ecology (H0-57)
Environmental Restoration Project
Manager

APPROVAL: _____ Date 5-12-16
Laura Buelow, Rod Lobos, or Christopher
Guzzetti, EPA (B1-46)
100 Area Project Manager

100 & 300 AREA UNIT MANAGER MEETING MINUTES

Groundwater and Source Operable Units; Facility Deactivation, Decontamination, Decommission, and Demolition (D4); Interim Safe Storage (ISS); Field Remediation (FR); Mission Completion; and 100-K Sludge Treatment Project and 100-K Facility Demolition and Soil Remediation Projects

April 14, 2016

ADMINISTRATIVE

- Next Unit Manager Meeting (UMM) – The next meeting will be held May 12, 2016, at the Washington Closure Hanford (WCH) Office Building, 2620 Fermi Avenue, Room C209.
- Attendees/Delegations – Attachment A is the list of attendees. Representatives from each agency were present to conduct the business of the UMM.
- Approval of Minutes – The March 10, 2016, meeting minutes were approved by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL).
- Action Item Status – The status of action items was reviewed and updates were provided (see Attachment B).
- Agenda – Attachment C is the Regular Session meeting agenda.

EXECUTIVE SESSION (Tri-Parties Only)

An Executive Session was not held by RL, EPA, and Ecology prior to the April 14, 2016, UMM.

100-K AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides a status of the 100-K Sludge Treatment Project and the 100-K Facility Demolition and Soil Remediation projects. No issues were identified and no agreements or action items were documented.

100-B/C AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 3 provides status and information for Washington Closure Hanford (WCH) Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 4 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

100-N AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 3 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 4 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no action items were documented.

> Agreement 1: Attachment 5 provides DOE's and Ecology's approvals that backfill is not needed at the 100-N-83 waste site and that what little re-contouring that might be needed can be performed this winter during site revegetation.

100-D & 100-H AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 3 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 4 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

100-F & 100-IU-2/100-IU-6 AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 3 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. Attachment 4 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

300 AREA – 618-10/11 (GROUNDWATER, SOILS)

Attachment 3 provides status and information for WCH Closure Operations activities at the 100 Areas, 618-10, and the 300 Area. No issues were identified and no agreements or action items were documented.

300 AREA - GENERAL (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 3 provides the 100 Areas, 618-10, and the 300 Area. Attachment 4 provides the Field Remediation schedule for the 100 Areas, 100-IU-2/6, and the 300 Area. No issues were identified and no agreements or action items were documented.

ORCHARD LANDS

John Sands reported that DOE met with Ecology last week to resolve the remaining comments on the Work Plan. A red-line mark-up was provided to Ecology for review. A meeting is scheduled for next week. No issues were identified and no agreements or action items were documented.

CERCLA FIVE YEAR REVIEW

Still on schedule.

Attachment A

100/300 AREA UNIT MANAGER MEETING

ATTENDANCE

April 14, 2016

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Attachment B

100/300 Area UMM
Action List
April 14, 2016

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status

Attachment C

100/300 Area Unit Manager Meeting
April 14, 2016
Washington Closure Hanford Building
2620 Fermi Avenue, Richland, WA 99354
Room C209; 2:00 p.m.

Administrative:

- Approval and signing of previous meeting minutes
- Update to Action Items List
- Next UMM (5/12/2016, Room C209)

Open Session: Project Area Updates - Groundwater, Field Remediation, D4/ISS:

- 100-K Area (Steve Balone, Roger Quintero)
- 100-B/C Area (Greg Sinton)
- 100-N Area (Greg Sinton, John Neath)
- 100-D & 100-H Areas (Steve Balone, John Neath)
- 100-F & 100-IU-2/6 Areas (Greg Sinton, John Neath)
- 300 Area - 618-10/11 exclusively (Jamie Zeisloft)
- 300 Area (John Sands/Rudy Guercia)
- Orchard Lands (John Sands)

Special Topics/Other

- CERCLA Five Year Review

Adjourn

Attachment 1

100/300 Areas Unit Managers Meeting
April 14, 2016 (March data)

Summary Hanford Sampling Program

Hanford's overall Site groundwater monitoring program (managed by CHPRC for the River Corridor and Central Plateau) coordinates collection of groundwater samples from wells and aquifer tubes, as well as surface water samples from springs.

Sample trips are scheduled by target month and prioritized based on project needs. Target sample dates (months) are chosen to minimize the number of sample trips by aligning requests from multiple project activities for a single location into a single trip, where practical.

Sample Trip Status by Month Scheduled

For Fiscal Year 2016, Hanford's overall Site groundwater monitoring program has 2,795 sample trips scheduled for collection. DOE-RL has successfully completed 1,504 of 1,536 sample trips scheduled for October 2015 through March 2016.

Through March 2016 (FY2016, month six) the program successfully completed 157 of the 179 groundwater sampling trips scheduled. Additionally 9 trips scheduled for January and February 2016 were collected in March bringing the total number of FY2016 trips to 1,504 of 2,795.

Sample Trip Status by Month Collected

During March 2016, 166 FY2016 sample trips were successfully collected of which 3 were scheduled for January, 6 were scheduled for February, and 157 were scheduled for March.

The specific wells, aquifer tubes, and springs sampled in the river corridor areas during March 2016 are listed in Table 1.

Awaiting Sample Trips

Of the FY2015 and 2016 sample trips scheduled for March 2016 and prior, there are 37 that are awaiting collection. Of these, 2 require maintenance, 1 has access restrictions and is late, 1 has an adjusted schedule, 7 were unsuccessful, and 26 are awaiting collection at month end.

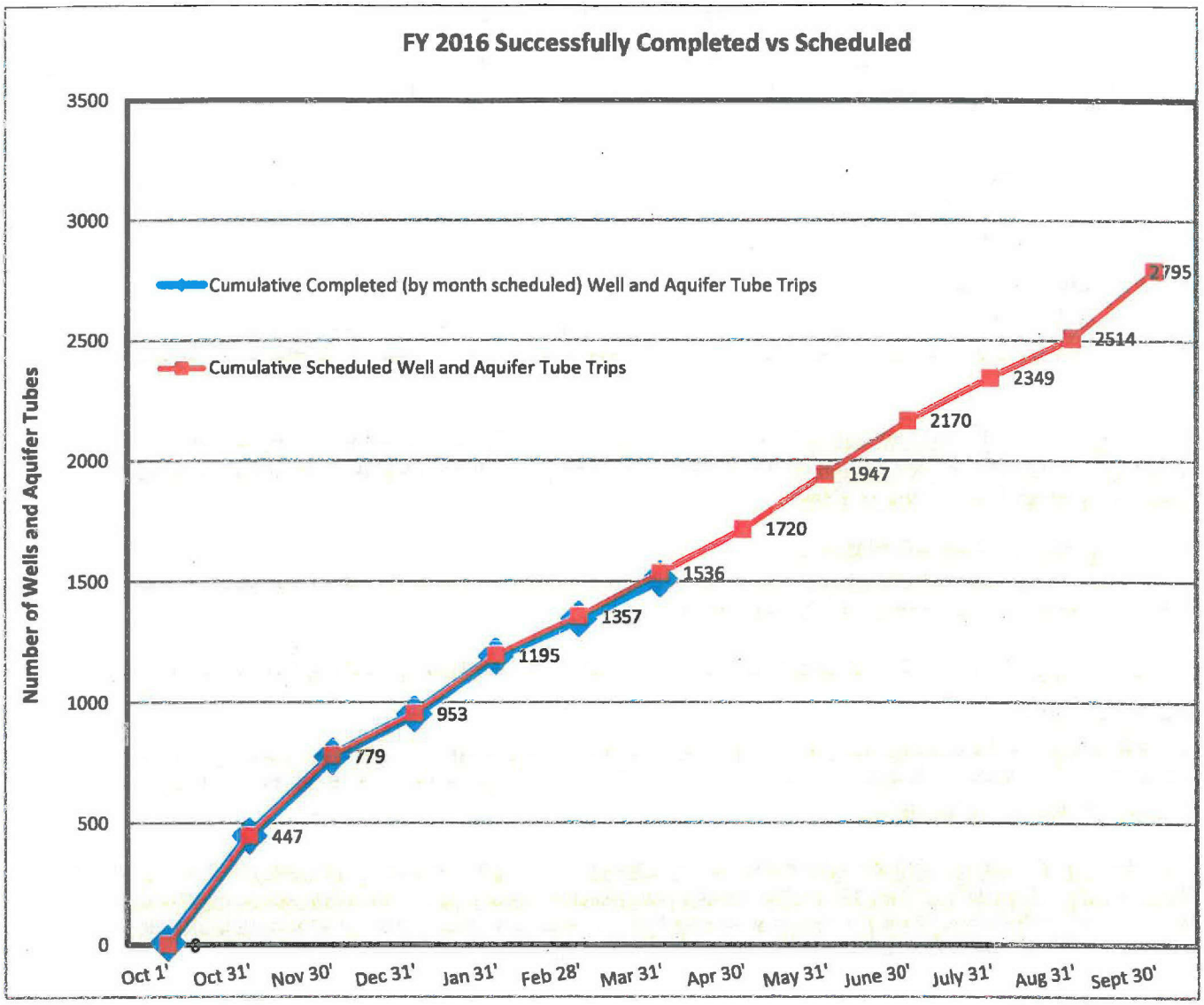
Table 2 presents the sample trips for only the River Corridor that were not successfully completed in March. Sample trips in Table 2 are grouped by fiscal month scheduled and groundwater interest area. This table shows that the number of awaiting well trips decreases with time from the schedule date. Reasons for sample trips to be awaiting include; well maintenance, weather conditions, access restrictions, and resource limitations.

Upcoming Sample Trips

Sample trips for the River Corridor scheduled for collection in April 2016 are listed in Table 3.

Data Access

The sampling results are available in HEIS and can be accessed from the Environmental Dashboard Application which can be accessed from the HLAN at https://ehs.chprc.rl.gov/eda/ or from the internet at https://ehs.hanford.gov/eda/.


FY 2016 Successfully Completed vs Scheduled
Number of Wells and Aquifer Tubes
3500
3000
2500
2000
1500
1000
500
0
Cumulative Completed (by month scheduled) Well and Aquifer Tube Trips
Cumulative Scheduled Well and Aquifer Tube Trips
447
779
953
1195
1357
1536
1720
1947
2170
2349
2514
2795
Oct 1'
Oct 31'
Nov 30'
Dec 31'
Jan 31'
Feb 28'
Mar 31'
Apr 30'
May 31'
June 30'
July 31'
Aug 31'
Sept 30'

Operable Unit Specifics

100-KR-4 Groundwater Operable Unit (Mike Drewett/Chuck Miller/Jason Hulstrom)

- CERCLA Process Implementation:
  - ✓ The RI/FS and PP documents are on hold pending 100-K East Reactor waste site characterization and modeling (based on data from new wells 199-K-221 and 199-K-222). Project staff are reviewing the PNNL leach testing report and preparing the borehole characterization report.
  - ✓ Monitoring Plans: The Draft A Interim Groundwater Monitoring Plan, Interim O&M Plan and Interim RD/RAWP were submitted and are currently under review by EPA.
  - ✓ As of January 2016, all wells associated with the 100-KW pump and treat system exhibited hexavalent chromium concentration below the 20 µg/L interim remedial action target. DOE-RL intends to shut down the KW system and implement a rebound monitoring study to evaluate the groundwater conditions in that area and assess the potential for continuing source contributions. A rebound study sampling and analysis plan is in preparation and a TPA change notice will be forthcoming.
- Remedial Actions & System Modifications:
  - ✓ The volume of groundwater treated and mass of Cr(VI) removed for the 100-K P&T systems (**KX, KR-4,** and **KW**) during March 2016 are:
    - Treated 66.2 million gallons (61.9 in February)
    - Removal 3.1 kg of hexavalent chromium (2.8 kg in February)
  - ✓ The influent and effluent Cr(VI) concentrations (measured weekly) for the three K systems during March are presented in Table K-1.

Table K-1. Monthly Summary of Influent and Effluent Concentrations at the 100-KR-4 P&T Systems

System	Weekly Influent Concentrations[a] (µg/L)	Average Monthly Influent Concentration (µg/L)	Weekly Effluent Concentrations[ab] (µg/L)	Average Monthly Effluent Concentration[b] (µg/L)
100-KR4	6, 4, 7	6	-2, -2, 1	-1
100-KW	13, 12, 12, 13	13	-1, 0, 3, 1	1
100-KX	14, 17, 18, 17	17	1, 0, 2, 1	1

a. Concentrations provided represent samples taken during the current month and loaded into HEIS as of the publication of the UMM.

b. Concentrations reported are below detection and represent the actual instrument reading on the sample(s). The detection limit is approximately 2 µg/L hexavalent chromium. The readings indicate that the measured concentration is indistinguishable from the blank.

✓ FY 2016 (Oct. 2015 through Mar. 2016) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
KR-4	80.3	1.7
KW	85.8	4.6
KX	215.1	13.2
100-KR-4 OU TOTAL	381	19.5

✓ In March 2016, the 30-day average pumping rates were 332 gpm, 323 gpm, and 839 gpm for the KR-4, KW, and KX systems, respectively. A summary of the number of extraction and injection wells in the three systems is shown in Table K-2. Figure K-1 illustrates the monthly average pumping rates for operating extraction wells across all 3 systems at 100-KR-4.

Table K-2. Summary of the Number of Extraction and Injection Wells in the Three Systems

Wells	KR4		KX		KW		TOTAL	
	2015	2016	2015	2016	2015	2016	2016	Current
Number of extraction wells	12	12	19	19	11	11	42	42
Number of injection wells	5	5	9	9	4	4	18	18

- At KR-4, the system operated at full capacity for the month of March. Hexavalent chromium concentration in extracted ground water continued to be below site cleanup requirements and the cumulative hexavalent chromium removal continues to decline. The system remains in service to provide hydraulic capture of inland groundwater.
- At KW, system wells 199-K-132, 199-K-139, and 199-K-166 remain off-line to allow increased pumping along the central axis of the plume. At the end of March, a minor outage occurred at the KW facility to allow for facility maintenance activities. Based on current field and laboratory measurements in March 2016, all extraction wells exhibited hexavalent chromium concentrations less than 20 µg/L. Cumulative hexavalent chromium removal continues to decline, primarily due to decreases in concentration at well 199-K-205.
- At KX, well 199-K-182, which had a larger capacity pump installed in February, was brought back online and pumped at approximately 75 gpm for most of March. Before the pump replacement, well 199-K-182 was pumping at 45 gpm. To allow for the increase at 199-K-182, well 199-K-163 was reduced to 25 gpm. Injection well 199-K-160, which required maintenance to replace the level transducer at the end of February, was brought back online and remained in service for all of March. Extraction well 199-K-152, was out of service for maintenance a couple days but was quickly brought back online. The KX facility itself experienced a couple minor outages for facility maintenance activities. At the end of March, 6 of 19 extraction wells exhibited hexavalent chromium concentrations that exceed 20 µg/L. These include well 199-K-141, 199-K-152, 199-K-154, 199-K-178, 199-K-182, and 199-K-210.

- ✓ Figures K-2 through K-4 present the March groundwater treatment rates and hexavalent chromium removal information. As indicated in the curves below, Cr(VI) monthly mass removal at KR-4, KW, and KX have generally decreased in recent months due to continued optimization efforts.
- ✓ Assessment of soil and groundwater characterization data from boreholes in the vicinity of 105-KE Reactor continues.

Soil remediation (i.e., remove-treat-dispose, or RTD) in vicinity of 183-KE Head House is continuing. The waste sites being remediated include the foundations of former cooling water treatment chemical storage tanks and associated conveyance pipes, and underlying contaminated soil to a depth of about 10 feet below plant grade.

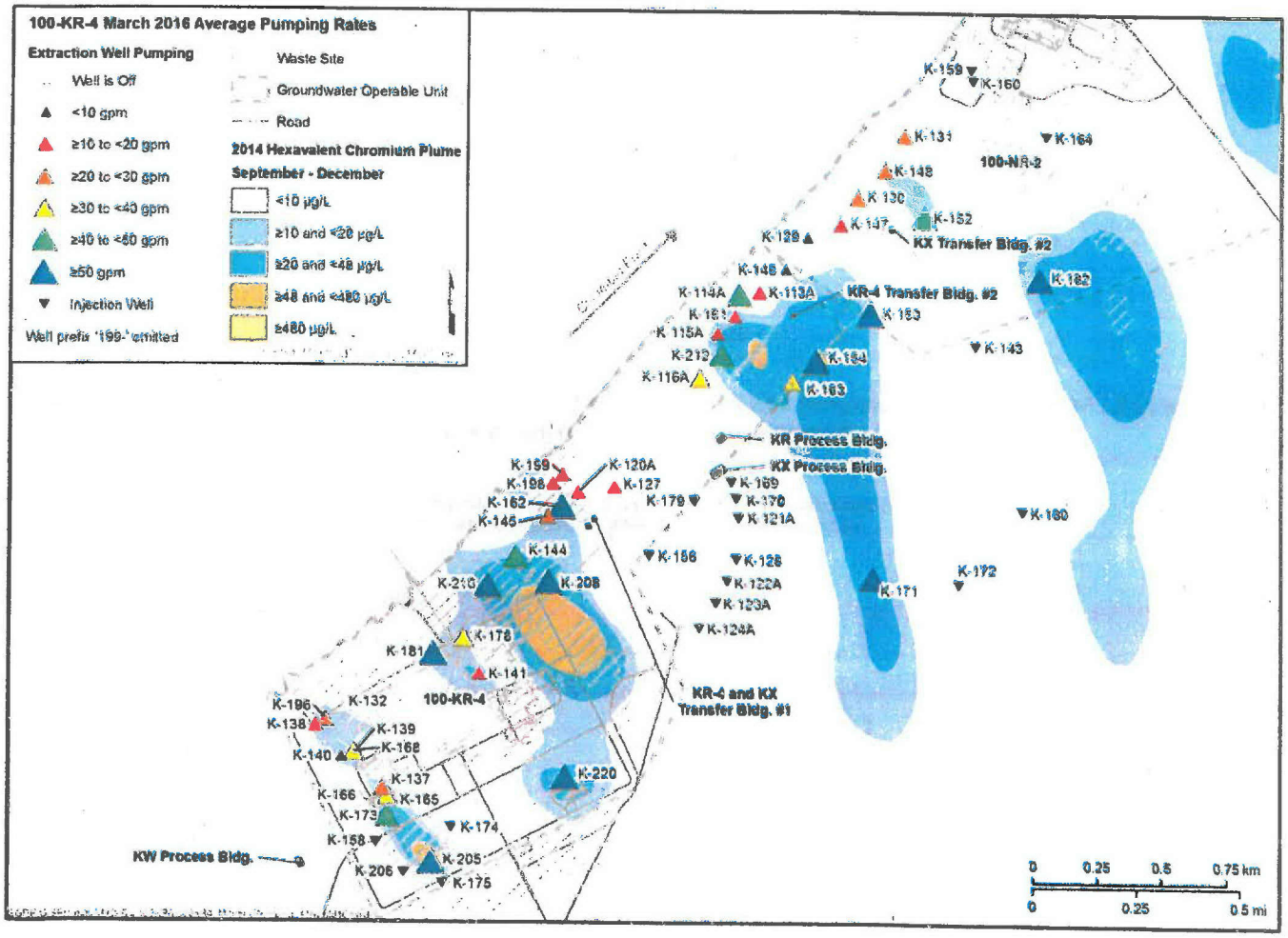


Figure K-1. March 2016 Average Pumping Rates for the 100-KR-4 P&T Systems

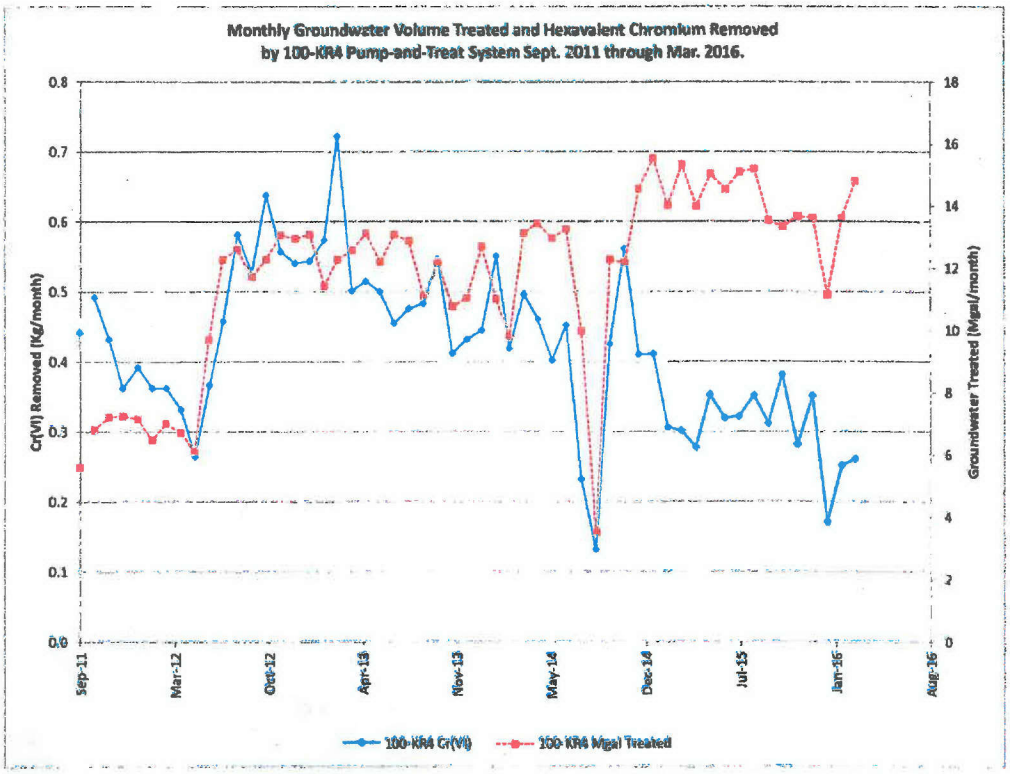


Figure K-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-KR-4 Pump-and-Treat, September 2011 through March 2016.

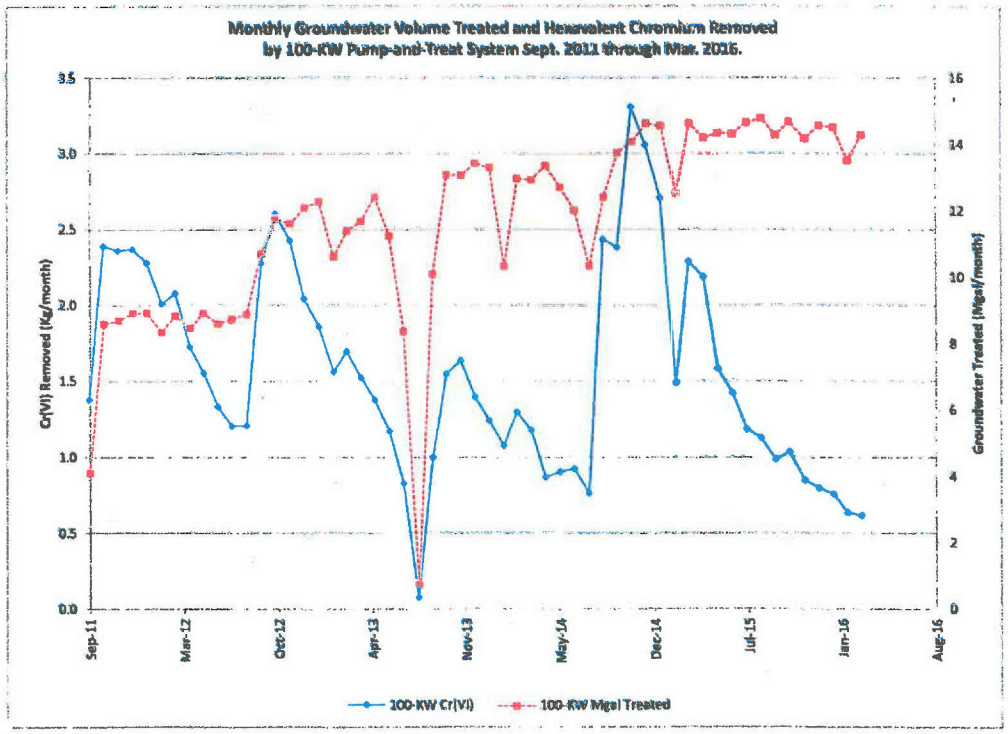


Figure K-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-KW Pump-and-Treat, September 2011 through March 2016.

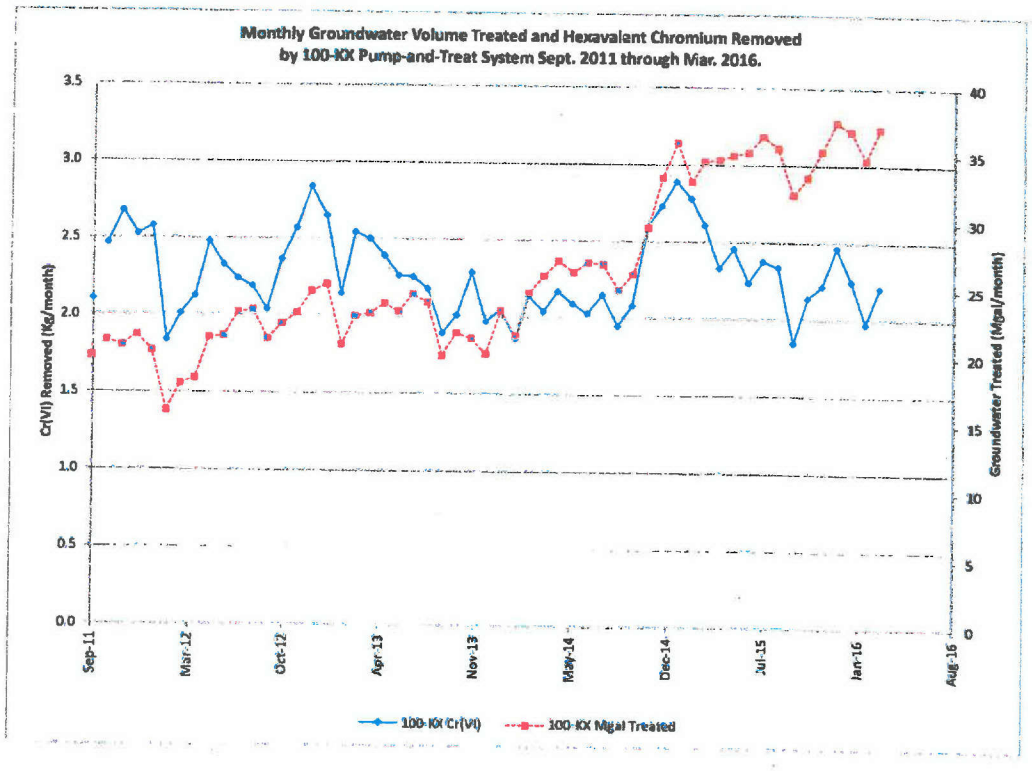


Figure K-4. Monthly Cr(VI) removed and groundwater volume treated by 100-KX pump-and-treat, September 2011 through March 2016.

100-BC-5 Groundwater Operable Unit – Robert Evans/Mary Hartman

- *Milestone M-015-79:* Due 12/15/2016 for the CERCLA RI/FS Report and Proposed Plan for the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units
- CERCLA Process Implementation:
  - ✓ Completed preliminary Decisional Draft RI/FS report to meet above milestone.
  - ✓ CHPRC and RL met with EPA to discuss remediation alternatives and groundwater modeling results that will be included in the RI/FS.
  - ✓ Risk assessment calculations identified two additional groundwater contaminants of potential concern: TCE and chloroform.
- Monitoring & Reporting:
  - ✓ Nothing new to report. The next groundwater sampling is scheduled for June.

100-NR-1/100-NR-2 Operable Unit – Bill Faught/Virginia Rohay/Art Lee

- CERCLA Process Implementation
  - ✓ The revised RI sections/chapters of the RI/FS Report are being submitted to DOE-RL for their draft final review. There are several unresolved comments in the document (Chapter 4, 5, 6 and 7) that will continue to be addressed by Ecology and DOE-RL over the coming months while the revised chapters are being reviewed.
  - ✓ The project extension for comment response was reissued on March 31, 2016, for 6 months.
  - ✓ The RFP for installation of 6 monitoring wells was released and proposals received. CHPRC decided, after review of the responses, to revise the RFP and reissue it since the responses were viewed as not technically acceptable. This process will require another 2 to 4 weeks to complete. Drilling is expected to start in the June/July timeframe.
  - ✓ The Cultural Resource Review and MOA for removal of the 100-NR-2 Pump and Treat system has been approved. Planning of the work has started. The field work is expected to occur over the coming 6 to 9 months.
  - ✓ A meeting was held on March 21, 2016, with DOE-RL and Ecology to discuss remaining comments to the 100-NR-2 Groundwater OU SAP (Appendix A of DOE/RL-2001-27, Rev 2, Draft A). Comment responses have been updated and an updated version of the SAP was emailed to Ecology for checking on April 7, 2016 incorporated and Revision 2 will be routed for approval and release.
- Remedial Actions

100-NR-1 Bioventing –

- ✓ Figure NR-1 presents bioventing well gas sample results for monitoring wells 199-N-171 and 199-N-169. Monthly vapor sample measurements were collected March 25, 2016. Vapor samples indicate continued TPH bioremediation occurring at the vicinity of well 199-N-171, but not at well 199-N-169. However, gas measurement data from the recent respirometry test conducted from January 11 through February 22, 2016, indicate higher oxygen utilization rates at wells 199-N-169 and 199-N-171 than the other respirometry test monitoring wells.
- ✓ TPH biodegradation rates calculated from the respirometry test for the bioventing wells are provided in Table NR-1. Biodegration rates were not calculated for 199-N-18 and 199-N-183 because of low oxygen utilization. The oxygen utilization rates and calculated biodegradation rates are slightly higher than observed from last year's respirometry test, and similar to that observed during low river stage in December 2014. Oxygen measurements between 19 and 22 percent represent atmospheric conditions indicating insignificant oxygen depletion at monitoring wells 199-N-183 and 199-N-18 which are furthest from the area of suspected residual TPH contamination.
- ✓ Figures NR-2 and NR-3 show the concentration trends for TPH-diesel measured in groundwater samples collected form the bioventing wells during the respirometry tests. Figure NR-2 shows the TPH-diesel concentration trends for bioventing injection well 199-N-169 and its nearby monitoring well 199-N-167, TPH-diesel concentration trends for bioventing injection well 199-N-171 and its nearby monitoring well 199-N-172 are provided in Figure NR-3.

- ✓ The TPH-diesel concentrations are lower in the 199-N-167/199-N-169 pair than in the 199-N-171/199-N-172 pair. Concentrations are also fairly constant in the injection well 199-N-169 and decreasing in the monitoring well 199-N-167. This could be an indication that TPH contamination in the deep vadose zone at this location is cleaning up with minimal exchange between the sediments and groundwater in PRZ. At wells 199-N-171 and 199-N-172 the TPH-diesel concentrations are trending up indicating that TPH contamination is still present in the deep vadose zone and exchange to TPH contamination between the sediments and groundwater in the PRZ is occurring.
- ✓ The respirometry test report is currently being drafted and will be included in the annual bioventing performance report. The draft report is expected to be completed by the end of April for DOE-RL review.

Table NR-1. Comparison of Biodegradation Rate from Respirometry Testing

Monitoring Location	Biodegration Rate (mg/kg-day)		
	Jan-16	Jul-15	Dec-14
199-N-167	-0.07	-0.06	-0.05
199-N-169	-0.12	-0.11	-0.23
199-N-171	-0.19	-0.13	-0.23
199-N-172	-0.04	-0.03	-0.05
199-N-183	N/A	N/A	N/A
199-N-18	N/A	N/A	N/A

N/A = biodegration rate not calculated because of low oxygen utilization

Product Recovery –

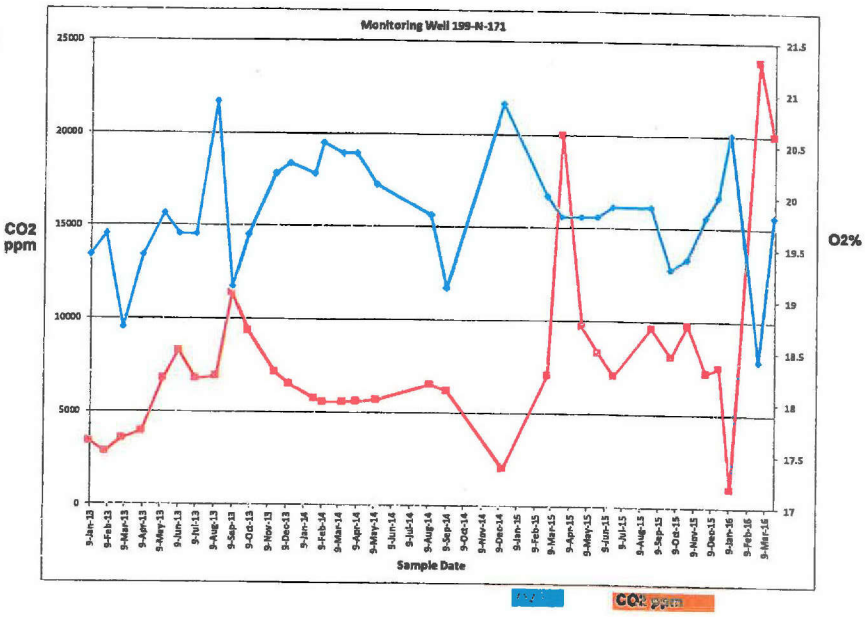
- ✓ A new sponge assembly was installed following the respirometry test on February 23, 2016, and will be changed-out in late April 2016.

Aquifer Tubes –

- ✓ Tubes C7934, C7935, and C7936 are located adjacent to one another (Figure NR-4), with screens at depths of *14.41 ft. (C7934)*, *18.75 ft. (C7935)*, and *29.19 ft. (C7936)*. All three aquifer tubes were sampled on February 23, 2016 and March 22, 2016. Tritium and strontium-90 concentration trends for all three aquifer tubes through February 23, 2016, are shown in Figures NR-5 and NR-6, respectively. As of April 12, 2016, the March 2016 data for all three aquifer tubes are not available in HEIS.
- ✓ The RCRA monitoring wells scheduled for March 2016 were sampled March 8- 10, 2016.

Well 199-N-171

Well #	Date	O2%	CO2 ppm
199-N-17	9-Jan-13	19.4	3400
	5-Feb-13	19.6	2840
	6-Mar-13	18.7	3570
	8-Apr-13	19.4	3960
	15-May-13	19.8	6820
	12-Jun-13	19.6	8290
	10-Jul-13	19.6	6800
	14-Aug-13	20.9	6940
	11-Sep-13	19.1	11400
	8-Oct-13	19.6	9380
	21-Nov-13	20.2	7160
	16-Dec-13	20.3	6520
	27-Jan-14	20.2	5720
	11-Feb-14	20.5	5520
	17-Mar-14	20.4	5520
	9-Apr-14	20.4	5560
	14-May-14	20.1	5670
	13-Aug-14	19.8	6520
	10-Sep-14	19.1	6180
	15-Dec-14	20.9	2000
	1-Mar-15	20	7020
	25-Mar-15	19.8	20000
	29-Apr-15	19.8	9650
	26-May-15	19.8	8260
	22-Jun-15	19.9	7000
	27-Aug-15	19.9	9620
	30-Sep-15	19.3	8070
	29-Oct-15	19.4	9770
	30-Nov-15	19.8	7200
	22-Dec-15	20	7510
	11-Jan-16	20.6	1000
	29-Feb-16	18.4	24000
	25-Mar-16	19.8	20000



Well 199-N-169

Well #	Date	O2%	CO2 ppm
199-N-16	9-Jan-13	20.9	0
	5-Feb-13	20.9	0
	6-Mar-13	20.9	0
	8-Apr-13	20.9	0
	15-May-13	20.9	800
	12-Jun-13	20.9	780
	#1 10-Jul 13	20.5	1020
	#2 10-Jul 13	20.9	920
	14-Aug-13	20.9	530
	11-Sep-13	20.9	1250
	8-Oct-13	20.9	550
	21-Nov-13	21.3	600
	16-Dec-13	20.9	530
	27-Jan-14	20.9	500
	11-Feb-14	20.9	550
	17-Mar-14	20.9	470
	9-Apr-14	20.9	660
	14-May-14	20.9	840
	13-Aug-14	20.9	520
	10-Sep-14	20.9	410
	15-Dec-14	21	100
	1-Mar-15	20.9	360
	25-Mar-15	20.9	325
	29-Apr-15	20.9	410
	26-May-15	20.9	460
	22-Jun-15	21	0
	27-Aug-15	21.4	330
	30-Sep-15	20.9	530
	29-Oct-15	20.9	360
	30-Nov-15	20.9	460
	22-Dec-15	20.9	490
	11-Jan-16	20.9	0
	29-Feb-16	20.9	520
	25-Mar-16	20.9	15.6

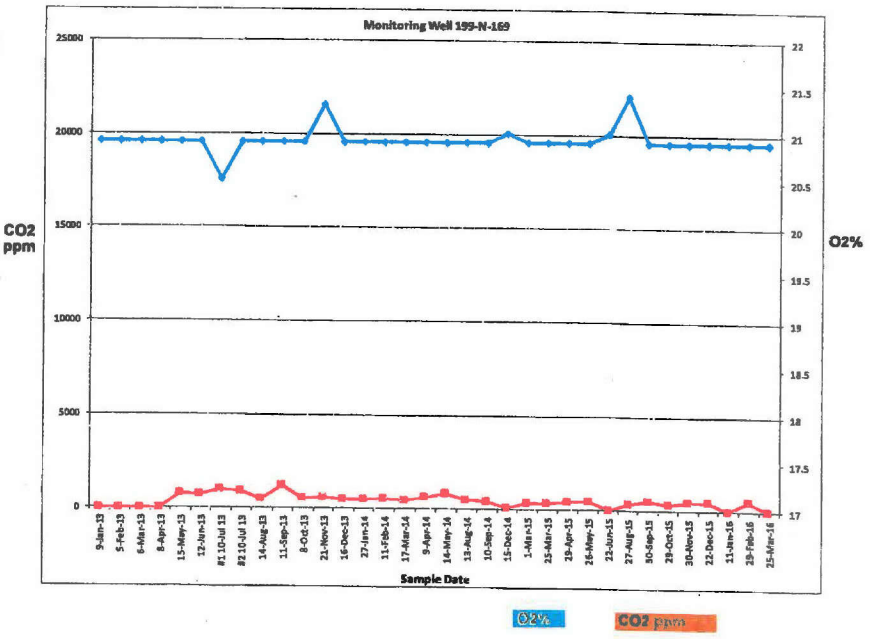


Figure NR-1. Bioventing Wells 199-N-169 and 199-N-171 Monthly Sampling Results.

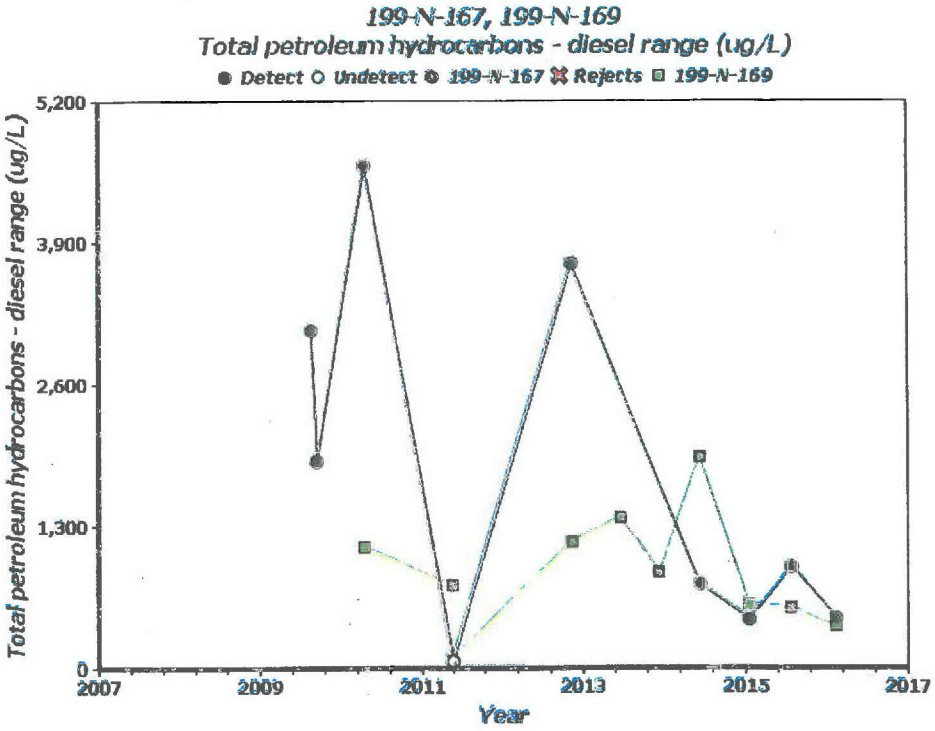


Figure NR-2. Wells 199-N-167 and 199-N-169 Groundwater TPH-Diesel Concentration

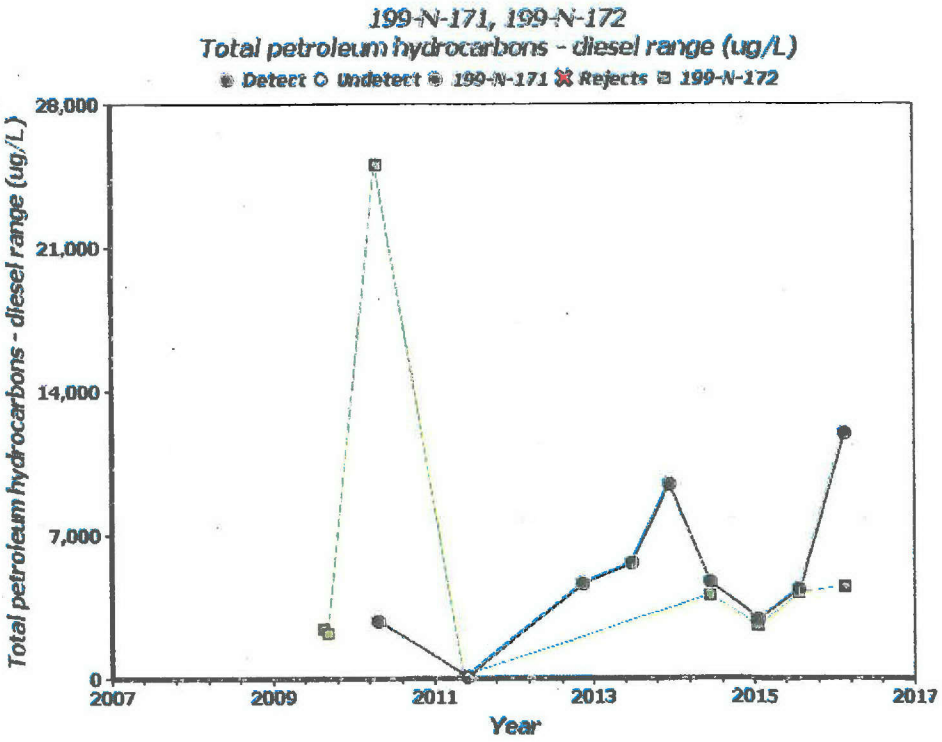


Figure NR-3. Wells 199-N-171 and 199-N-172 Groundwater TPH-Diesel Concentration

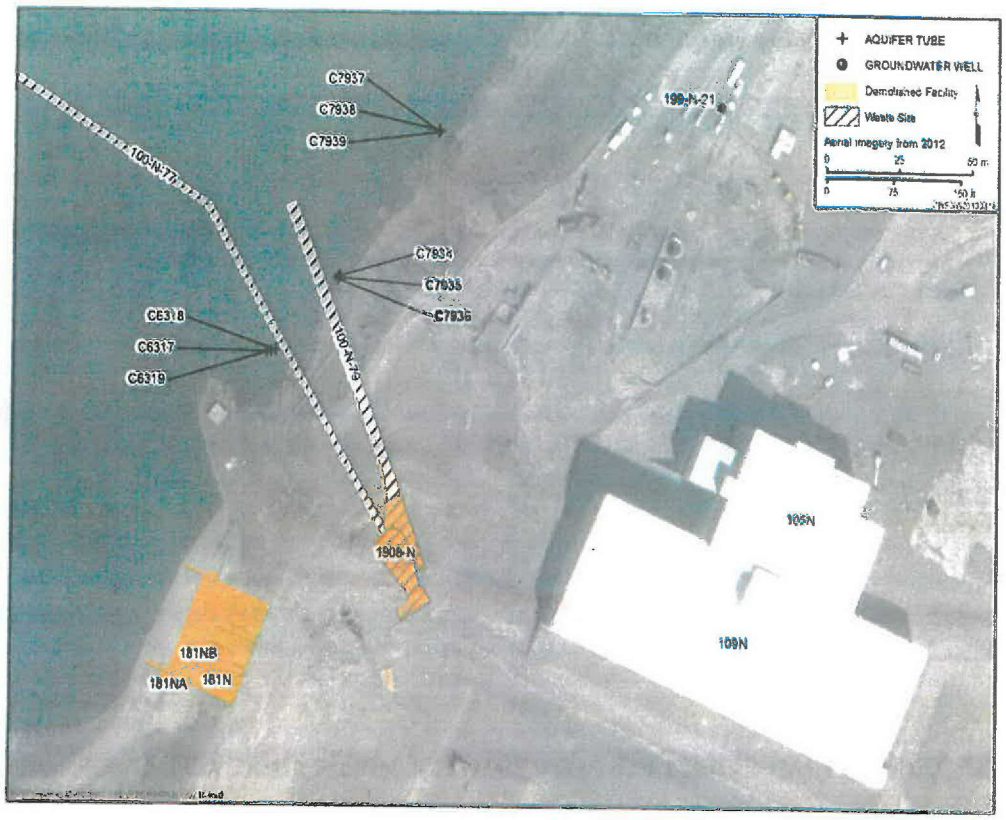


Figure NR-4. Locations of Aquifer Tubes C7934, C7935, and C7936.

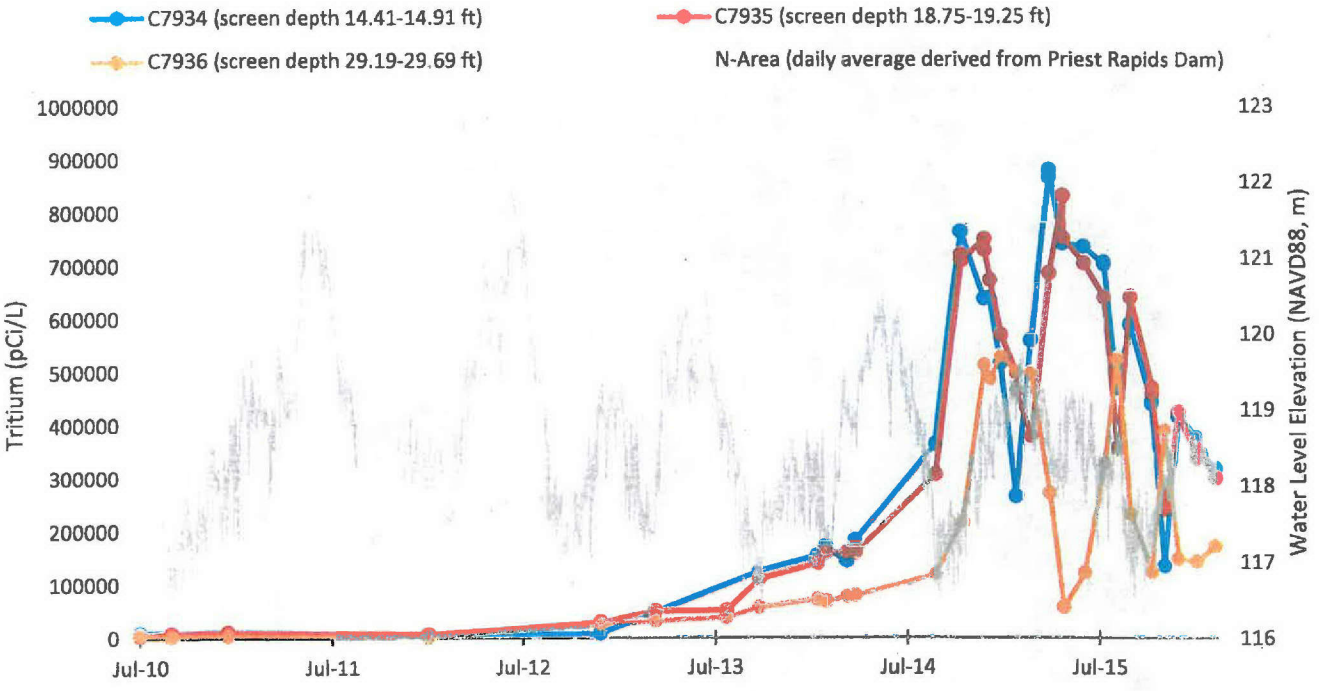


Figure NR-5. Tritium Trends through February 2016 at Aquifer Tubes C7934, C7935, and C7936.

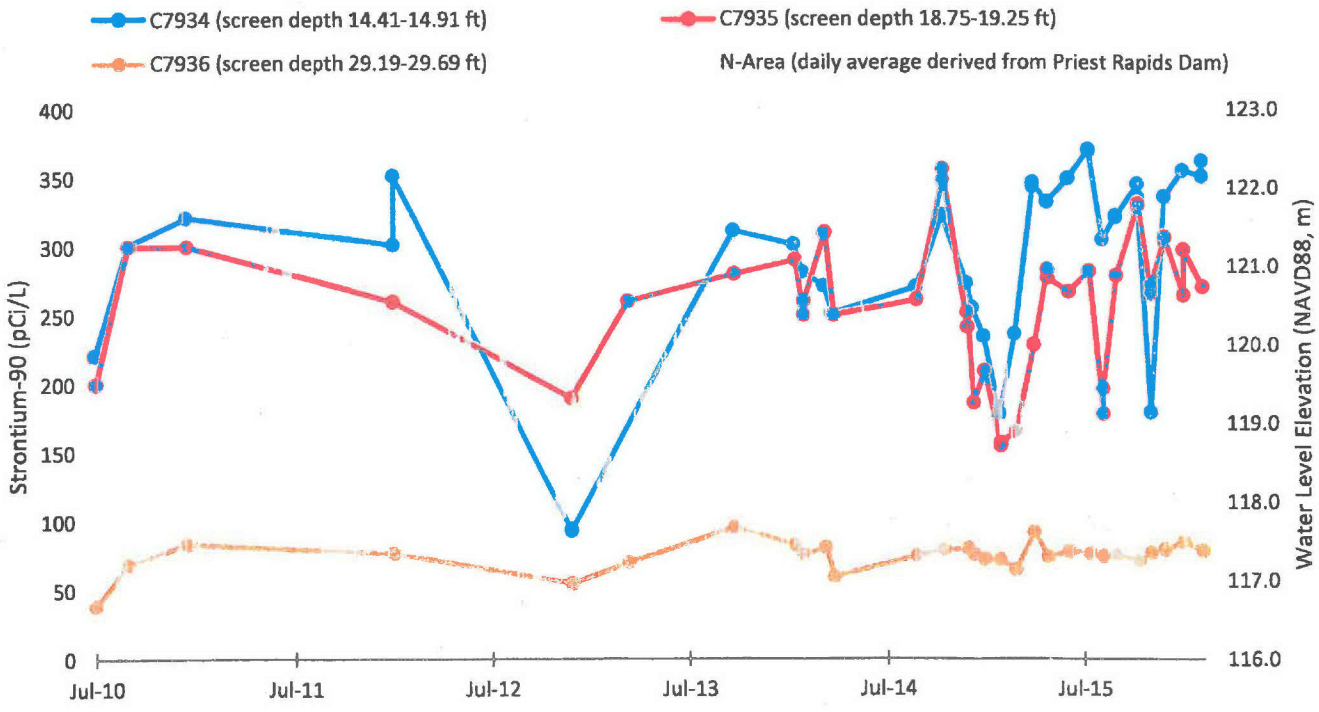


Figure NR-6. Strontium-90 Trends through February 2016 at Aquifer Tubes C7934, C7935, and C7936.

100-HR-3 Groundwater Operable Unit – Mike Drewett/Kris Ivarson

- CERCLA Process Implementation:
  - ✓ EPA legal comments on the Proposed Plan were received on November 9, 2015. RL is reviewing comments for required changes/updates. The document will be issued to the public later in 2016.
  - ✓ Interim RD/RAWP, Interim Monitoring Plan, and Interim O&M Plan, Draft A plans were transmitted to Ecology on September 30, 2014. The documents (all 3) will be issued in late April 2016 as Rev. 0.
- FY16 Drilling Progress
  - ✓ Completed all 7 of the WCH replacement wells. We are waiting for the last of the laboratory results.
  - ✓ The cultural reviews for the planned FY2016 well installation are ongoing, with completion currently anticipated in late April 2016.
- Ringold Upper Mud (RUM) Aquifer Pump Test
  - ✓ Planning for a 30-day aquifer pump test in underway. The instrumentation for collecting water levels and specific conductance ongoing. Approximately 30 days of water level and conductance data will be collected prior to starting the pump testing.
- Remedial Actions & System Modifications
  - ✓ The volume of groundwater treated and mass of Cr(VI) removed from the 100-HR-3 P&T systems during March 2016 are:
    - Treated: 55.8 million gallons (50.8 in February)
    - Removed: 7.7 kg of Cr(VI) (7.2 in February)
  - ✓ The influent and effluent Cr(VI) concentrations (measured weekly) for the 100-HR-3 systems during March are presented in Table H-1.
  - ✓ A summary of the number of extraction and injection wells in the DX and HX P&T systems is shown in Table H-2. Figure H-1 illustrates the monthly average pumping rates for operating extraction wells across the DX and HX P&T systems. River levels are increasing.
  - ✓ FY 2016 (Oct. through Mar.) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
DX	201	38.3
HX	116	12.6
100-HR-3 OU TOTAL	317	50.9

Table H-1. Monthly Summary of Influent and Effluent Concentrations at the 100-HR-3 P&T Systems				
System	Weekly Influent Concentrations[a] (µg/L)	Average Monthly Influent Concentration (µg/L)	Weekly Effluent Concentrations[ab] (µg/L)	Average Monthly Effluent Concentration (µg/L)
100-DX	44, 39, 40, 39, 38, 36, 34, 34	38	3, 1.5, 1.5, 3, -4, 4, -4, 1.5, 1.5	1
100-HX	23, 21, 26, 18, 24	22	1.5, 1.5, 0, 0, -1, 0	0

a. Concentrations provided represent samples taken during the current month and loaded into HEIS as of the publication of the UMM.

b. Concentrations reported are below detection and represent the actual instrument reading on the sample(s). The detection limit is approximately 2 µg/L hexavalent chromium. The readings indicate that the measured concentration is indistinguishable from the blank.

Table H-2. Summary of the Number of Extraction and Injection Wells in the 100-HR-3 Systems

	DX		HX		Total
Wells	2014	2015	2014	2015	Current
Number of extraction wells	44	46	31	34	80
Number of injection wells	14	11	14	16	27

Notes:
The FY16 well realignments are pending cultural review and completion of design drawings. There has been no change to the number of operational wells in 2016.

- ✓ The resin at DX is being reconditioned with pH values being lowered in isolated vessels. Two trains are off-line while the resin is being soaked. Additional sampling is being conducted to determine the effect of the reconditioning on the effluent concentrations.
- ✓ Hexavalent chromium concentrations in groundwater at 100-HR-3 are now below 300 µg/L across the operable unit, and below 200 µg/L in all but a few wells.
- ✓ Summaries of the volume of groundwater treated and Cr(VI) removed for the 100-DX and 100-HX pump and treat systems are shown in figures H-2 and H-3, respectively.
- ✓ A general reduction in Cr(VI) mass removal over time, a function of progress of remediation with associated reduction in groundwater contaminant concentration, is exhibited at both DX and HX. The drop in concentrations is more pronounced at DX, where concentrations were previously at very high levels. Influent concentrations at DX continue to decline as remediation progresses.

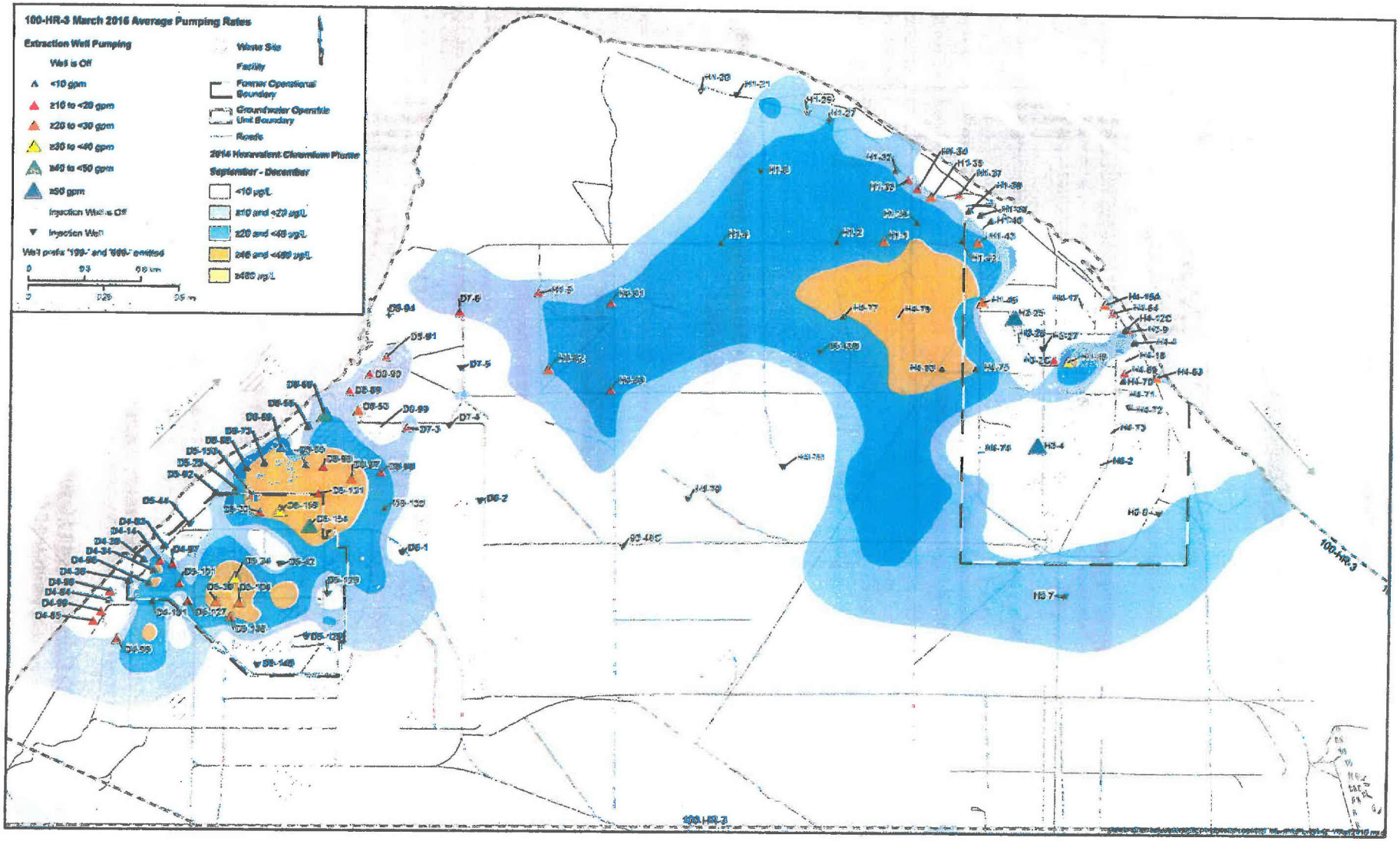


Figure H-1. March 2016 Average Pumping Rates for the 100-HR-3 P&T Systems

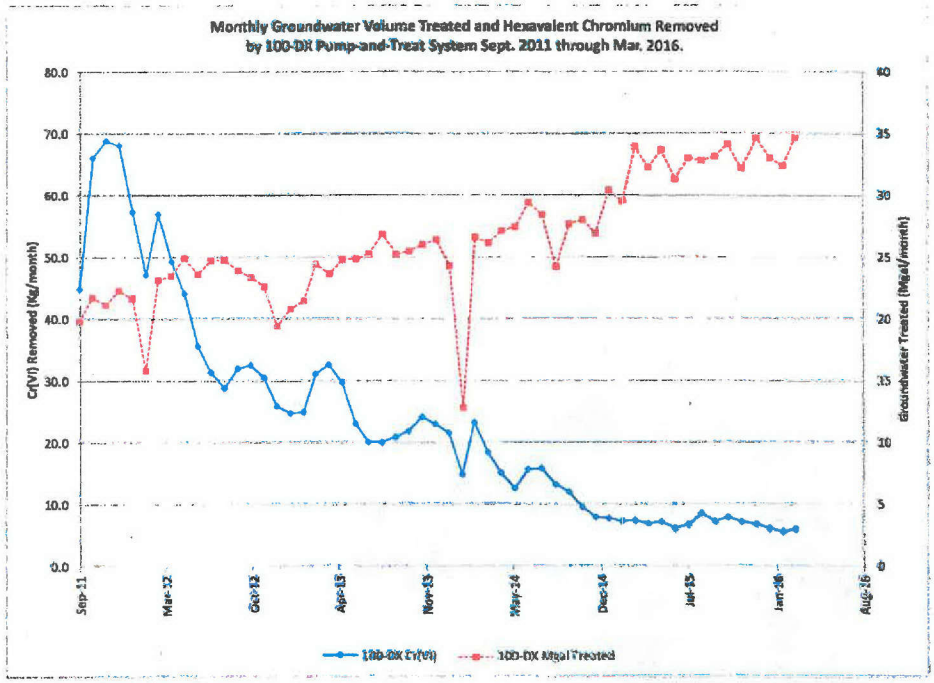


Figure H-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-DX Pump-and-Treat, September 2011 through March 2016.

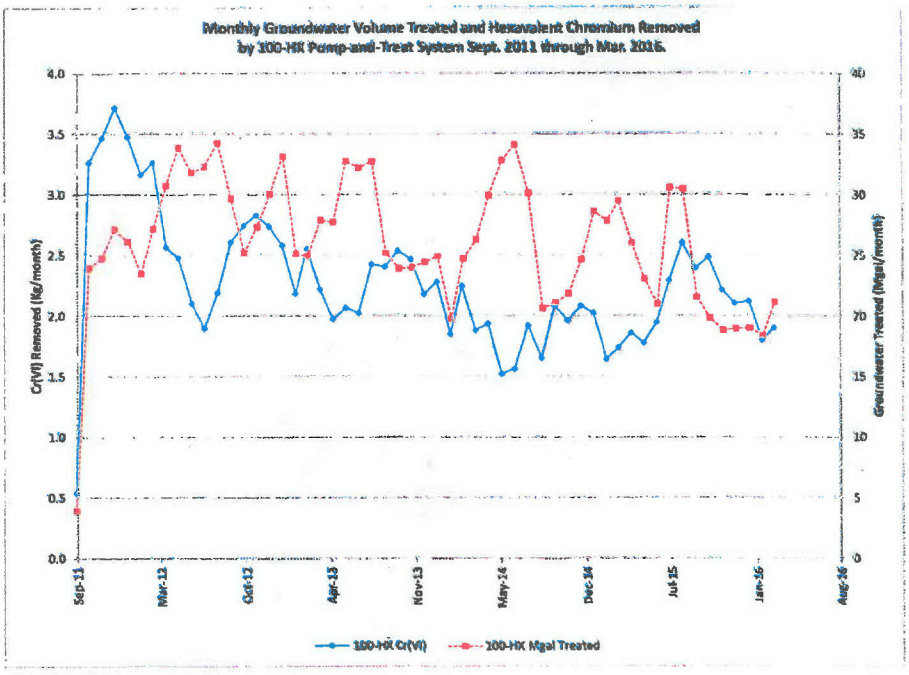


Figure H-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by 100-HX Pump-and-Treat, September 2011 through March 2016.

100-FR-3 Groundwater Operable Unit – Robert Evans/Mary Hartman

- CERCLA Process Implementation:
  - ✓ Nothing to report
- Monitoring & Reporting:
  - ✓ Drilling for the new monitoring wells is scheduled to begin April 18, 2016.
  - ✓ Completed installation of five (5) automated water level network (AWLN) monitoring stations. The AWLNs are functioning and reporting/recording data.
  - ✓ The next sampling event for existing wells is scheduled for June 2016 (5 semiannual wells).

300-FF-5 Groundwater Operable Unit – Patrick Baynes/Virginia Rohay/Farah Elloy

- CERCLA Process Implementation:
  - ✓ Well-specific and contaminant-specific evaluations have begun using groundwater data through CY2015 to assess the progress toward, and attainment of, remedial action objectives for the long-term groundwater monitoring network.
  - ✓ Clarifications that were needed in the CERCLA documents pertaining to surface water and groundwater protection Soil Screening Levels, Preliminary Remediation Goals, and Cleanup Values were discussed with EPA on February 19, 2016. EPA agreed that the clarification to the Record of Decision is a non-significant change. Meeting minutes have been prepared.
- Remedial Actions:
  - ✓ Initial performance indicators are positive for uranium sequestration after completion of the polyphosphate infiltration and injections in the 0.75 acre Stage A enhanced attenuation area (Figures FF-1 and FF-2). The permanence of the sequestration treatment is dependent on the current meta-stable compounds eventually forming stable minerals, depending on contact time. The efficacy of the sequestration process will be evident after longer-term groundwater results are available.
  - ✓ Stage A summary of preliminary, short-term observations regarding Stage A uranium sequestration:
    - Initial meta-stable amorphous phosphate minerals appear to be sequestering uranium, as expected.
    - Long-term sequestration performance will be evident after stable phosphate minerals have had time to form and will be gauged with future groundwater monitoring events.
    - Higher uranium concentrations within some Stage A EA area wells are attributed to rewetting of the vadose zone from infiltration and leaching of uranium.
    - Effects were local and restricted to the Stage A EA area.
    - Elevated uranium concentrations (i.e., higher than pre-treatment concentrations) were not observed in the aquifer downgradient of the Stage A EA area.
- Monitoring & Reporting:
  - ✓ 300 Area Industrial Complex: One well was sampled as scheduled on March 16, 2016. The next sampling event is scheduled for June 2016.
  - ✓ 618-10 Burial Ground/316-4 Crib: The next sampling event is scheduled for December 2016.
  - ✓ 618-11 Burial Ground: The next sampling event is scheduled for October 2016.
  - ✓ 300 Area Process Trenches (316-5) RCRA Monitoring: All 8 wells were sampled on March 4, 2016.
  - ✓ The next sampling event is scheduled for June 2016.

Figure FF-1. Location of the Stage A Enhanced Attenuation Area

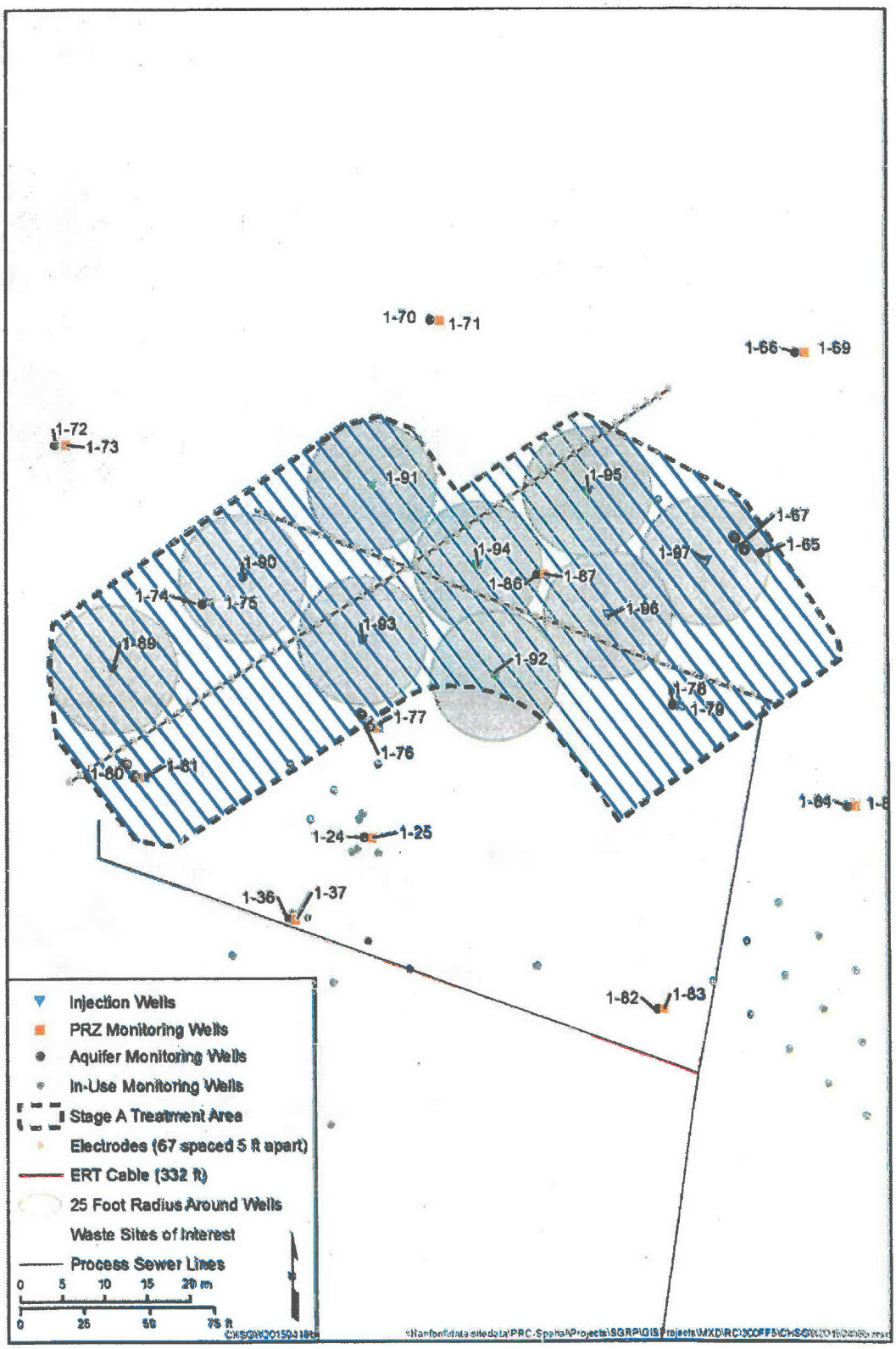


Figure FF-2. Location of the Stage A Enhanced Attenuation Area Injection and Monitoring Wells and Infiltration Lines.

Hanford Sampling Program Information

Table 1 Wells, Aquifer Tubes, and springs in the River Corridor Areas Successfully Sampled in March 2016.

100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
		199-D3-2	199-H1-1	199-K-203	199-N-105A		399-1-10A
		199-D4-22	199-H1-2	199-K-204	199-N-165		399-1-10B
		199-D4-23	199-H1-25		199-N-2		399-1-16A
		199-D4-25	199-H1-34		199-N-28		399-1-16B
		199-D4-62	199-H1-36		199-N-3		399-1-17A
		199-D5-103	199-H1-4		199-N-32		399-1-17B
		199-D5-123	199-H1-42		199-N-34		399-1-18A
		199-D5-125	199-H1-43		199-N-41		399-1-18B
		199-D5-126	199-H1-45		199-N-57		399-4-14
		199-D5-145	199-H1-46		199-N-71		699-9-E2
		199-D5-15	199-H3-11		199-N-72		699-S11-E12AP
		199-D5-16	199-H3-2A		199-N-73		699-S19-E14
		199-D5-38	199-H4-10		199-N-74		699-S6-E14A
		199-D5-43	199-H4-13		199-N-77		
		199-D8-5	199-H4-45		199-N-81		
		199-D8-70	199-H4-5		C6132		
		199-D8-72	199-H4-63		C6323		
			199-H4-64		C7881		
			199-H4-69		C7934		
			199-H4-70		C7935		
			199-H4-75		C7936		
			199-H4-77		C7937		
			199-H4-83		C7938		
			199-H4-90		C7939		
			199-H4-91		N116mArray-0A		
					N116mArray-11A		
					N116mArray-15A		
					N116mArray-1A		
					N116mArray-2A		
					N116mArray-3A		
					N116mArray-4A		
					N116mArray-6A		
					N116mArray-8A		
					N116mArray-9A		
					NVP1-1		
					NVP1-2		
					NVP1-3		
					NVP1-4		

100/300 Areas Unit Managers Meeting

April 14, 2016 (March data)

100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
					NVP1-5		
					NVP2-115.1		
					NVP2-115.4		
					NVP2-115.7		
					NVP2-116.0		
					NVP2-116.3		

Table 2 FY2015 and 2016 Sample Trips in the River Corridor Areas awaiting at the end of March 2016

Qtr Sched	GWiA	SAMP_SITE TYPE	SITE_NAME	SCHEDULE DATE	Frequency	Months Remain	Status	Comment
FY 2015 Q4	100-NR	AQUIFER TUBE	C6331	9/1/2015	Annual	5		
FY 2016 Q1	100-HR-D	AQUIFER TUBE	36-M	11/1/2015	Annual	7		Unsuccessful 12-8-2015
	100-KR	SPRING	100-K SPRING 68-1	10/1/2015	Annual	6		
		WELL	199-K-23	11/1/2015	Biannual	1		Unsuccessful 11-19-2015
		WELL	199-K-36	11/1/2015	Biannual	1		Bioremediation, Adjusted Schedule
		AQUIFER TUBE	AT-K-4-M	10/1/2015	Annual	6		
	100-NR	SPRING	River water adjacent to C6317/18/19	10/1/2015	Annual	6		
		SPRING	River water adjacent to C7934/35/36	10/1/2015	Annual	6		
		SPRING	River water adjacent to C7937/38/39	10/1/2015	Annual	6		
FY 2016 Q2	100-HR-D	WELL	199-D4-39	2/1/2016	Quarterly	1		
		WELL	199-D8-73	3/1/2016	Quarterly	2		
	100-HR-H	WELL	199-H1-27	3/1/2016	Quarterly	2		
		WELL	199-H1-39	3/1/2016	Quarterly	2		
		WELL	199-H1-40	2/1/2016	Quarterly	1		
		WELL	199-H1-6	3/1/2016	Quarterly	2		
		WELL	199-H3-2C	3/1/2016	Quarterly	2		
		WELL	199-H4-76	3/1/2016	Quarterly	2		
	100-NR	AQUIFER TUBE	C6135	1/11/2016	Biannual	3		
		AQUIFER TUBE	N116mArray-10A	3/1/2016	Quarterly	2		
	300-FF	WELL	699-12-4D	3/1/2016	Annual	11		Unsuccessful 3-17-2016

Table 3 Groundwater Sampling Locations in the River Corridor Scheduled to be sampled in April 2016

100-BC	100-FR	100-HR-D	100-HR-H	100-KR	100-NR	1100-EM	300-FF
	699-87-42A	199-D4-19	199-H4-15CQ	199-K-117A	199-K-151		699-S29-E16C
		199-D4-26	199-H4-6	199-K-126	C7934		
		199-D4-55	199-H4-92	199-K-130	C7935		
		199-D4-65	199-H4-93	199-K-152	C7936		
		199-D4-77	199-H5-16	199-K-165			
		199-D4-86	699-100-43B	199-K-166			
		199-D4-92	699-101-45	199-K-173			
		199-D4-93	699-88-41	199-K-18			
		199-D4-95	699-89-35	199-K-20			
		199-D4-96	699-90-37B	199-K-202			
		199-D4-97	699-97-43C	199-K-205			
		199-D4-98	699-97-45B	199-K-207			
		199-D4-99	699-97-47B	199-K-21			
		199-D5-101	699-97-60	199-K-221			
		199-D5-103		199-K-222			
		199-D5-127		699-73-61			
		199-D5-13		C7641			
		199-D5-130		C7642			
		199-D5-131		C7643			
		199-D5-14					
		199-D5-145					
		199-D5-159					
		199-D5-20					
		199-D5-32					
		199-D5-33					
		199-D5-36					
		199-D5-37					
		199-D7-3					
		199-D7-6					
		199-D8-101					
		199-D8-4					
		199-D8-89					
		199-D8-90					
		199-D8-91					
		199-D8-95					
		199-D8-96					
		199-D8-97					
		199-D8-98					
		699-97-48C					
		699-97-61					

Documents for AR Submission

Number	Title	Referencing Doc/Driver
SGW-48535, Rev. 0, 2011	Soil Vapor Extraction Extended Operation Evaluation	supports 200-PW-1 OU
UNI-4042, Rev. 0, 1987	ARCL Calculations for decommissioning the 117-B Filter Building	support the 100-BC RI/FS
UNI-3415, Rev. 1, 1985	ARCL Calculations for decommissioning the 117-C Filter Building	support the 100-BC RI/FS
UNI-3745, Rev. 0, 1986	Radiological Release Report for the 108-B Building	support the 100-BC RI/FS
UNI-3826, Rev. 0, 1986	ARCL Calculations for decommissioning the 116-C Stack	support the 100-BC RI/FS
UNI-3721, Rev. 0, 1986	ARCL Calculations for decommissioning the 108-B Exhaust Ventilation Stack	support the 100-BC RI/FS
WHC-SD-DD-TI-035, Rev. 0, 1989	Dose Assessment for the 115-B/C Gas Recirculation Facility	support the 100-BC RI/FS
SGW-59455, Rev. 0, 2016	300-FF-5 Operable Unit Stage A Uranium Sequestration System Installation Report	cleared March 2016
CHPRC-02799, Rev. 0, 2016	Performance Measure PM-30-5-16: Complete Stage A 300-FF-5 Uranium Sequestration Injections	cleared Feb 2016
SGW-58986, Rev. 1, 2016	FY2016 Plume Containment and Remediation Utilization Plan	DOE/RL-2013-35-ADD7
CHPRC-02867, Rev. 0, 02016	Return on Investment: Replacement of High-Purge Volume Monitoring Well Pumps with Low-Purge Volume Bladder Pumps	cleared March 2016
CHPRC-1504415, Rev. 1, 2016	Implementation Plan for the Installation of Low Purge Volume Bladder Pumps	cleared March 2016
SGW-54219, Rev. 0, 2013	Data Quality Objectives Summary Report for Supplementary Characterization of the UPR-100-K-1 and 116-KE-3 Waste Sites	supports GW annual report for 2015
SGW-54226, Rev. 0, 2013	Sampling Instruction for Supplementary Characterization of UPR-100-K-1 and 116-KE-3 Waste Sites	supports GW annual report for 2015
SGW-54226, Rev. 1, 2014	Sampling Instruction for Supplementary Characterization of UPR-100-K-1 and 116-KE-3 Waste Sites	supports GW annual report for 2015

Attachment 2

100K Area Report
100/300 Area Unit Manager Meeting
April 14, 2016

RL-0012 Sludge Treatment Project

TPA Milestone **M-016-177**, *Complete 105-KW sludge transfer equipment installation.*
(**9/30/17**) – On Schedule

- Statements of Work for Engineered Container Retrieval and Transfer System (ECRTS) equipment procurement have been grouped into 20 separate procurement sets. Eight procurement sets are in progress, eleven have been completed, and one has been canceled.
- The Auxiliary Ventilation Low Pressure Air Purge Piping Assembly and Oxygen Analyzer were received at MASF, which completed the fabrication and acceptance of the ECRTS production hardware required to commence cold commissioning testing.
- Continued preparations for in-basin installation of the Ingress/Egress device.
- The K West Basin Annex construction closeout process continues.
- Construction Aid #3 (Annex Equipment Installation) was completed and delivered to the construction contractor for a proposal. The construction aids provide a comprehensive description of the work scope and requirements for the installation of the equipment.

TPA Milestone **M-016-175**, *Begin sludge removal from 105-KW Fuel Storage Basin*
(**9/30/18**) – On Schedule

- The project team completed installation of the ECRTS production hardware in the test bed at the Maintenance and Storage Facility (MASF) in preparation for the MASF Pre-operational Acceptance Test (MPAT), which is scheduled to commence on April 5th.
- With receipt of the Safety Evaluation Report for the Preliminary Documented Safety Analysis (PDSA), Rev. 2, project personnel worked on preparation of the draft KW Basin Documented Safety Analysis and Technical Safety Requirement documents. These documents will combine the ECRTS PDSA and the current KW Basin safety basis documents into an integrated safety basis set. Submittal to DOE-RL is forecast for August, 2016.
- Construction is preparing to install the ingress/egress assembly in the KW Basin in April.
- Fabrication of sludge storage equipment and preparations for removal of North Loadout Pit equipment continues at T Plant.

TPA Milestone **M-016-176**, *Complete sludge removal from 105-KW Fuel Storage Basin*
(**12/31/19**) – On Schedule

- Initiation of this milestone follows completion of Milestone M-016-175.

TPA Milestone **M-016-178**, *Initiate deactivation of 105-KW Fuel Storage Basin.*
(**12/31/19**) – On Schedule

- The following pre-deactivation actions are underway:
    - Integrated Water Treatment System garnet filter media removal system design work continues.

- Sand filter backwash solids sample analyses and the characterization calculation are complete. These documents confirm the classification of sand filter media as RH TRU and are a key input to the sand filter media removal system design.
- Dose to curie modeling of basin below-water debris modeling continues. This characterization data will become a key input to the calculation to demonstrate compliance with ERDF waste acceptance criteria for 105-KW Basin.

TPA Milestone **M-016-173,** *Select K Basin sludge treatment and packaging technology and propose new interim sludge treatment and packaging milestones.*
(9/30/22) – On Schedule

- The preliminary treatment and packaging site evaluation report and the remedial design/remedial action work plan (DOE/RL-2011-15) for sludge treatment and packaging have been issued.

TPA Milestone **M-016-181,** *Complete deactivation, demolition and removal of 105-KW Fuel Storage Basin*
(9/30/23) – On Schedule

TPA Milestone **M-016-186,** *Initiate soil remediation under the 105-KW Fuel Storage Basin.*
(12/31/23) – On Schedule

RL-0041 K Facility Demolition and Soil Remediation

TPA Milestone **M-016-143**, *Complete the interim response actions for 100 K Area within the perimeter boundary and to the Columbia River for Phase 2 actions. Phase 2 is defined in the 100 K Area RD/RA Work Plans.*
(9/30/24) – On Schedule

- AB Wastes Sites. Samples of site 100-K-101 and stockpiled material have been received from the lab and are currently being analyzed. A proposal to continue remediation of up to 40,000 tons of soil and pursue closure of four waste sites is being evaluated.
- 165-KE Asbestos Project. Thermal System Insulation is being removed in the pipe tunnel area below grade. Once this activity is completed a negative pressure enclosure will be set up to facilitate asbestos removal in the boiler room area. Cement Asbestos Board removal on the main floor hallway and office areas is also underway.

TPA Milestone **M-093-28**, *Submit a change package for proposed interim milestones for 105-KE and 105-KW Reactor Interim Safe Storage*
(12/31/19) - On Schedule

TPA Milestone **M-093-27**, *Complete 105-KE and 105-KW Reactor Interim Safe Storage in Accordance with the Removal Action Work Plan.*
(9/302024) - On Schedule

TPA Milestone **M-016-00C**, *Complete all response actions for the 100 K Area*
(9/30/24) - On Schedule

Attachment 3

April 14, 2016 Unit Manager's Meeting
Closure Operations Status

100 Area

- 100-N-83 is complete. DOE and Ecology determined that backfill is not needed. Awaiting Ecology's comments on Draft Work Instruction prior to sample collection.
- 600-385 - Remediation of waste site, which began last month, is currently 27% complete.
- 600-349 - Performed limited geophysical investigation and collected soil samples for lead analyses from thirteen (13) different locations on March 23.
- Conducted annual general inspection of 100-F, 100-H, 100-D, 100-N and 100-B/C Areas on Monday, April 11th with personnel from DOE, MSA and CHPRC. No issues attributable to WCH Closure Operations were identified.

618-10

Trench Remediation

- Excavation and retrieval of drums that have been identified buried near the VPU field is still on hold so that augering and waste retrieval can be completed in the VPUs nearest the trench in rows 2, 3, 4 and 6.
- Drum processing operations are nearing completion. Debris drums as well as drums high in strontium remain to be processed. Several drums remain to be delivered to Perma-Fix and CWC.

VPU Remediation

- Forty-one (41) VPUs total have been augered, all in rows 2, 3, 4 and 6.
- Waste from VPU #18 successfully retrieved and grouted.
- Video of waste retrieval in VPU ready to be provided to EPA/WDOH.
- Pesky ravens built nest at top of VPU drill but nest was successfully removed before eggs could be laid. Equipment is being monitored to ensure ravens do not return.

300 Area

324 Building

- Contract transition with CHPRC expected on April 25th.
- Continuing to work with DOE and Ecology to resolve comments/responses on RCRA Part A Permit.
- Closure Plan is being transitioned to CHPRC.
- TEDE Calculation expected to be submitted for DOE/EPA approval next week.

300-288:2

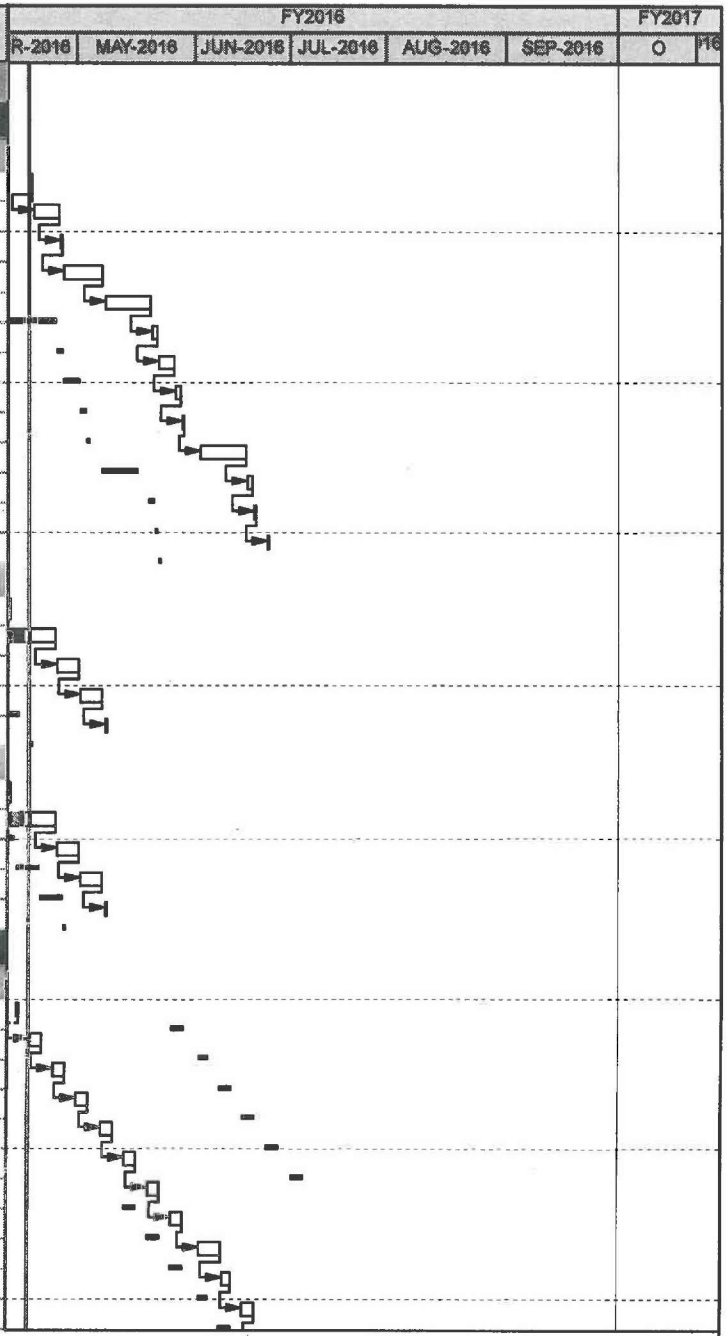
- Radiological surveys and sample collection on east side is complete. Verification Work Instruction has been revised to include both sides (east and west) and has been approved by DOE and EPA. Remediation of west side approximately 44% complete.

300-FF-2 RDR/RAWP

- Awaiting comments from EPA.

Attachment 4

Activity ID	Activity Name	RD	% Cmpl	Start	Finish
Jeff Lerch					
100 N					
N Area					
NRP1160	Perform Walkdown	1	0%	11-Apr-16*	11-Apr-16
NRP1040	WCH Revising Plant List	5	0%	12-Apr-16	19-Apr-16
NRP1050	WCH Transmits Plant List	1	0%	20-Apr-16	20-Apr-16
NRP1060	DOE Transmits Plant List	6	0%	21-Apr-16	02-May-16
NRP1070	Tribes provide feedback on Plant List	8	0%	03-May-16	16-May-16
NRP1080	WCH Revise Draft Restoration Plan per Tribal Input	2	0%	17-May-16	18-May-16
NRP1090	Tech Edit	2	0%	19-May-16	23-May-16
NRP1100	Internal Review / Inc. Comments	2	0%	24-May-16	25-May-16
NRP1110	WCH Transmit Draft Plan to DOE/MSA	1	0%	26-May-16	26-May-16
NRP1120	DOE/MSA Review of Plan	8	0%	31-May-16	13-Jun-16
NRP1130	WCH Incorporates DOE/MSA Comments	2	0%	14-Jun-16	15-Jun-16
NRP1140	WCH Transmits Final Plan to DOE	1	0%	16-Jun-16	16-Jun-16
NRP1150	DOE Transmits Final Restoration Plan (MOA III)	1	0%	20-Jun-16	20-Jun-16
100-N MR CRR HCRC #2011-100-104					
MR100NMR110	Tech edit Monitoring Report	0	100%	30-Mar-16 A	05-Apr-16 A
MR100NMR120	Incorporate Tech Edit Comments	5	30%	05-Apr-16 A	18-Apr-16
MR100NMR130	MSA Internal Review of Monitoring Report	4	0%	19-Apr-16	25-Apr-16
MR100NMR140	Incorporate MSA Comments	4	0%	26-Apr-16	02-May-16
MR100NMR150	Submit Final Monitoring Report to DOE	1	0%	03-May-16	03-May-16
100-N Exit Items HCRC# 2012-100-017 (inc. 100-N-83)					
100N83MR110	Tech Edit Monitoring Report	0	100%	30-Mar-16 A	05-Apr-16 A
100N83MR120	Incorporate Tech Edit Comments	5	30%	05-Apr-16 A	18-Apr-16
100N83MR130	MSA Internal Review of Monitoring Report	4	0%	19-Apr-16	25-Apr-16
100N83MR140	Incorporate MSA Comments	4	0%	26-Apr-16	02-May-16
100N83MR150	Submit Final Monitoring Report to DOE	1	0%	03-May-16	03-May-16
IU-2/6					
D & H Horn 600-385 (Sensitive) RTD & MR HCRC #2011-100-083					
100DHMR2020	600-385 Weekly to Consulting Parties #3 (MOA 7e)	0	100%	07-Apr-16 A	07-Apr-16 A
100DHMR2030	600-385 Weekly to Consulting Parties #4 (MOA 7e)	4	0%	11-Apr-16	14-Apr-16
100DHMR2040	600-385 Weekly to Consulting Parties #5 (MOA 7e)	4	0%	18-Apr-16	21-Apr-16
100DHMR2050	600-385 Weekly to Consulting Parties #6 (MOA 7e)	4	0%	25-Apr-16	28-Apr-16
100DHMR2060	600-385 Weekly to Consulting Parties #7 (MOA 7e)	4	0%	02-May-16	05-May-16
100DHMR2070	600-385 Weekly to Consulting Parties #8 (MOA 7e)	4	0%	09-May-16	12-May-16
100DHMR2080	600-385 Weekly to Consulting Parties #9 (MOA 7e)	4	0%	16-May-16	19-May-16
100DHMR2090	600-385 Weekly to Consulting Parties #10 (MOA 7e)	4	0%	23-May-16	26-May-16
100DHMR2100	600-385 Weekly to Consulting Parties #11 (MOA 7e)	4	0%	31-May-16	06-Jun-16
100DHMR2110	600-385 Weekly to Consulting Parties #12 (MOA 7e)	3	0%	07-Jun-16	09-Jun-16
100DHMR2120	600-385 Weekly to Consulting Parties #13 (MOA 7e)	4	0%	13-Jun-16	16-Jun-16

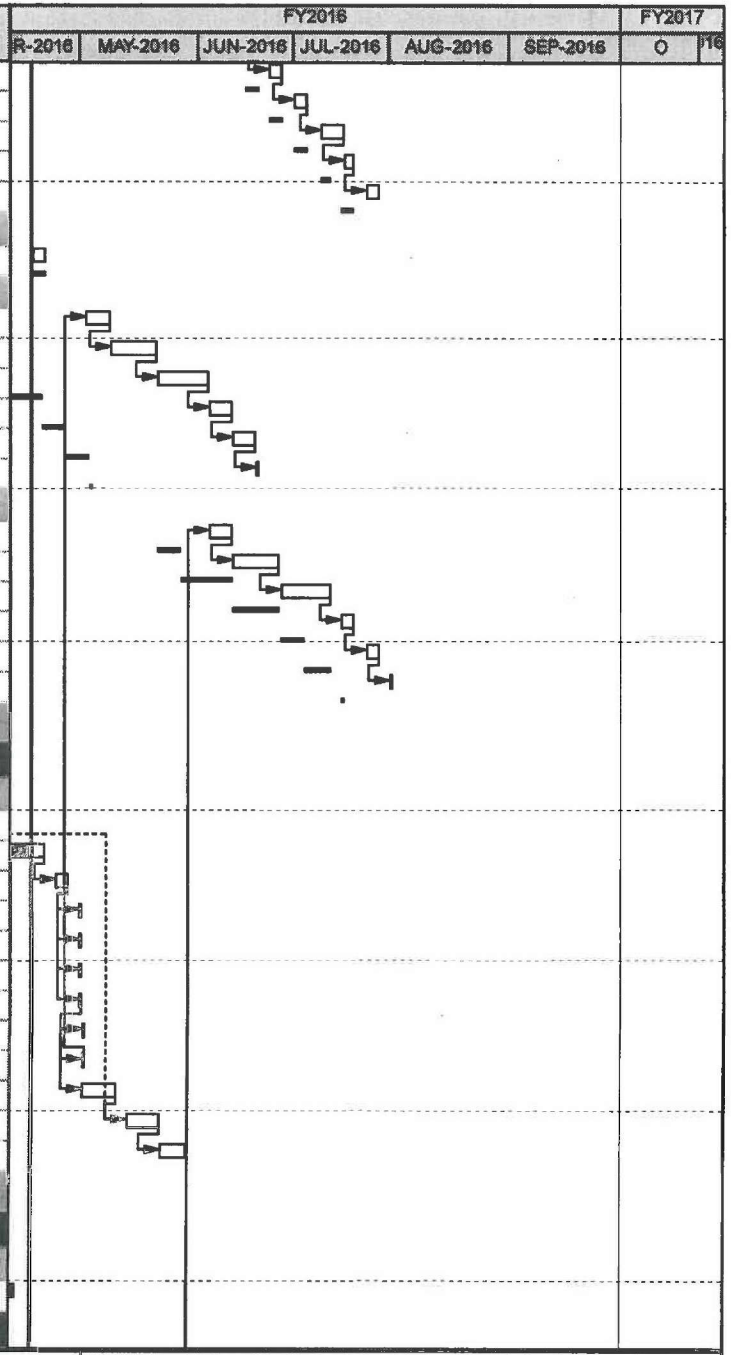


◆ Milestone
% Complete
Actual Work
Remaining Work
Actual Critical
Critical Remaining Work

UMM Schedule
1 of 4

Print date: 11-Apr-16. Data date: 11-Apr-16. TASK filters: POW Format, UMM.

Activity ID	Activity Name	RD	% Cmpl	Start	Finish
100DHMR2130	600-385 Weekly to Consulting Parties #14 (MOA 7e)	4	0%	20-Jun-16	23-Jun-16
100DHMR2140	600-385 Weekly to Consulting Parties #15 (MOA 7e)	4	0%	27-Jun-16	30-Jun-16
100DHMR2150	600-385 Weekly to Consulting Parties #16 (MOA 7e)	4	0%	05-Jul-16	11-Jul-16
100DHMR2160	600-385 Weekly to Consulting Parties #17 (MOA 7e)	3	0%	12-Jul-16	14-Jul-16
100DHMR2170	600-385 Weekly to Consulting Parties #18 (MOA 7e)	4	0%	18-Jul-16	21-Jul-16
600-349 Cultural Review					
6003495100	DOE Determining Path Forward for Additional Samples	4	0%	11-Apr-16	14-Apr-16
600-349 Sampling					
600349MR100	Prepare Draft Monitoring Report	4	0%	27-Apr-16	03-May-16
600349MR110	Tech Edit Monitoring Report	8	0%	04-May-16	17-May-16
600349MR120	Incorporate Tech Edit Comments	8	0%	18-May-16	01-Jun-16
600349MR130	MSA Internal Review of Monitoring Report	4	0%	02-Jun-16	08-Jun-16
600349MR140	Incorporate MSA Comments	4	0%	09-Jun-16	15-Jun-16
600349MR150	Submit Final Monitoring Report to DOE	1	0%	16-Jun-16	16-Jun-16
D & H Horn 600-385 Monitoring Report					
600385MR100	Prepare Draft Monitoring Report	4	0%	02-Jun-16	08-Jun-16
600385MR110	Tech Edit Monitoring Report	8	0%	09-Jun-16	22-Jun-16
600385MR120	Incorporate Tech Edit Comments	8	0%	23-Jun-16	07-Jul-16
600385MR130	MSA Internal Review of Monitoring Report	4	0%	11-Jul-16	14-Jul-16
600385MR140	Incorporate MSA Comments	4	0%	18-Jul-16	21-Jul-16
600385MR150	Submit Final Monitoring Report to DOE	1	0%	25-Jul-16	25-Jul-16
Megan Proctor					
IU-2/6					
600-349 Sampling					
C-6349-025	600-349 Obtain sample analysis	0	100%	28-Mar-16 A	04-Apr-16 A
C-6349-100	600-349 Targeted Geophysical Surveys & RL Briefing	4	50%	05-Apr-16 A	14-Apr-16
C-6349-105	600-349 7 Day Notification of Additional Sampling	4	0%	18-Apr-16	21-Apr-16
C-6349-110	600-349 Hand Dig Sample Locations (5 ea)	1	0%	25-Apr-16	25-Apr-16
C-6349-115	600-349 Collect Samples/Ship to Lab	1	0%	25-Apr-16	25-Apr-16
C-6349-120	600-349 Sift and Classify Material	1	0%	25-Apr-16	25-Apr-16
C-6349-125	600-349 Backfill Sample Locations (5 ea)	1	0%	25-Apr-16	25-Apr-16
C-6349-130	600-349 Dispose of Collected Waste	1	0%	26-Apr-16	26-Apr-16
C-6349-135	600-349 Demobilize Site	1	0%	26-Apr-16	26-Apr-16
C-6349-140	600-349 Obtain sample analysis from additional samples	7	0%	26-Apr-16	05-May-16
C-6349-026	600-349 Evaluate Sample Results	7	0%	09-May-16	18-May-16
C-6349-027	600-349 Brief RL and Discuss Results	5	0%	19-May-16	26-May-16
Dan Elkins					
100 H					
Well Replacements (CHPRC)					
FH010	Well Replacement - Well 199-H4-87 (C8734)	0	100%	14-Mar-16 A	06-Apr-16 A
100 N					

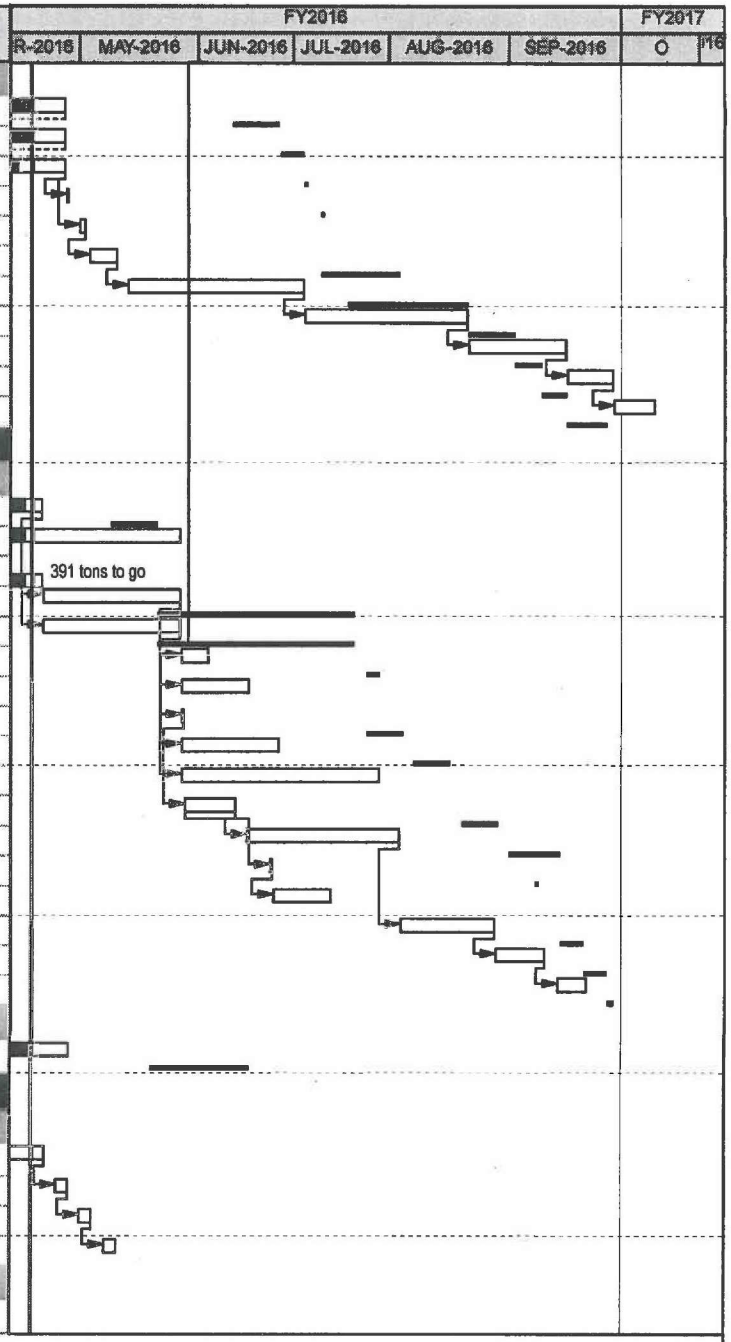


◆ Milestone
% Complete
Actual Work
Remaining Work
Actual Critical
Critical Remaining Work

UMM Schedule
2 of 4

Print date: 11-Apr-16. Data date: 11-Apr-16. TASK filters: POW Format, UMM.

Activity ID	Activity Name	RD	% Cmpl	Start	Finish
100-N-83					
NB5B2D02	RL/Reg Review Draft A Work Instr for 100-N-83	7	80%	08-Mar-16 A	20-Apr-16
NB5B2D017	Resolve RL/Reg Comments Draft A Work Instr 100-N-83	7	75%	24-Mar-16 A	20-Apr-16
NB5B2D03	RL/Reg Sign Rev. 0 Work Instr for 100-N-83	7	50%	24-Mar-16 A	20-Apr-16
NB5B2D027	Prepare and Issue Rev 0 Work Instr for 100-N-83	1	0%	21-Apr-16	21-Apr-16
NB5B2D037	Take Samples - 100-N-83	2	0%	25-Apr-16	26-Apr-16
NB5B2D04	Closure Sampling Analysis - 100-N-83	5	0%	28-Apr-16	05-May-16
NB5B2D05	Prepare Closure Doc - 100-N-83	30	0%	09-May-16	29-Jun-16
NB5B2D06	RL/Reg Review Draft A Closure Doc for 100-N-83	26	0%	30-Jun-16	16-Aug-16
NB5B2D06A	Resolve RL/Reg CommentsDraft A Closure Doc for 100-N-	16	0%	17-Aug-16	14-Sep-16
NB5B2D07	RL/Reg Sign Rev. 0 Closure Doc for 100-N-83	8	0%	15-Sep-16	28-Sep-16
NB5B2D07A	Prepare and Issue Rev. 0 Closure Doc for 100-N-83	6	0%	29-Sep-16	10-Oct-16
IU-2/6					
600-385					
R-6385-100	Excavation 600-385 (580 BCMs) (8 cans/day)	3	70%	28-Mar-16 A	13-Apr-16
R-6385-150	600-385 in-process monitoring (MOA 1d, 1h, 1i, 1j, 2a, 2b,	26	20%	28-Mar-16 A	24-May-16
R-6385-110	Loadout 600-385 (1,280 tons) (8 cans/day)	3	70%	28-Mar-16 A	13-Apr-16
R-6385-120	Excavation 600-385 (2,036 BCMs) (10 cans/day)	23	0%	14-Apr-16	24-May-16
R-6385-130	Loadout 600-385 (4,480 tons) (10 cans/day)	23	0%	14-Apr-16	24-May-16
R-6385-140	Disassemble road mats to 600-385 and loadout	4	0%	25-May-16	01-Jun-16
R-6385-125	600-385 Permit Survey to do post ex survey and dwg	10	0%	25-May-16	13-Jun-16
C-6385-010	Prepare competent person asbestos evaluation 600-385 (M	1	0%	25-May-16	25-May-16
C-6385-020	600-385 update archaelogical sites (MOA 7a, 7b)	16	0%	25-May-16	22-Jun-16
C-6385-025	600-385 Report Summarizing and Integrating Cultural Use	32	0%	25-May-16	21-Jul-16
C-6385-030	Prepare WSRF 600-385	8	0%	26-May-16	09-Jun-16
C-6385-040	RL/Reg Review of Draft A WSRF 600-385	26	0%	13-Jun-16	27-Jul-16
BF-6385-010	Backfill 600-385 (45 BCMs)	1	0%	20-Jun-16	20-Jun-16
R-6385-160	600-385 Permit Survey to do post backfill survey and dwg	10	0%	21-Jun-16	07-Jul-16
C-6385-060	Resolve RL/Reg Comments Draft A WSRF 600-385	16	0%	28-Jul-16	24-Aug-16
C-6385-070	RL/Reg Signature Rev.0 WSRF 600-385	8	0%	25-Aug-16	08-Sep-16
C-6385-080	Prepare/Issue Rev.0 WSRF 600-385	6	0%	12-Sep-16	20-Sep-16
Misc. Restoration					
M513DF011	Seg 4-D/H MR Removal (Near 600-385) (MOA 1f, 1g)	8	50%	30-Mar-16 A	21-Apr-16
300 Area					
300 Area Interim Stabilization Plan					
RDR0011	EPA/WCH/DOE Review Remedial Design Report (RDR)	4	5%	31-Mar-16 A	14-Apr-16
RDR0021	Incorporate Comments - Remedial Design Report (RDR)	4	0%	18-Apr-16	21-Apr-16
RDR0031	EPA/DOE Review/Approve RDR	4	0%	25-Apr-16	28-Apr-16
RDR0041	Issue Retrieval Data Report (RDR)	4	0%	02-May-16	05-May-16
300A Closure Documents					
CR031	Post Demo Summary Report - 340	0	100%	02-Nov-15 A	04-Apr-16 A

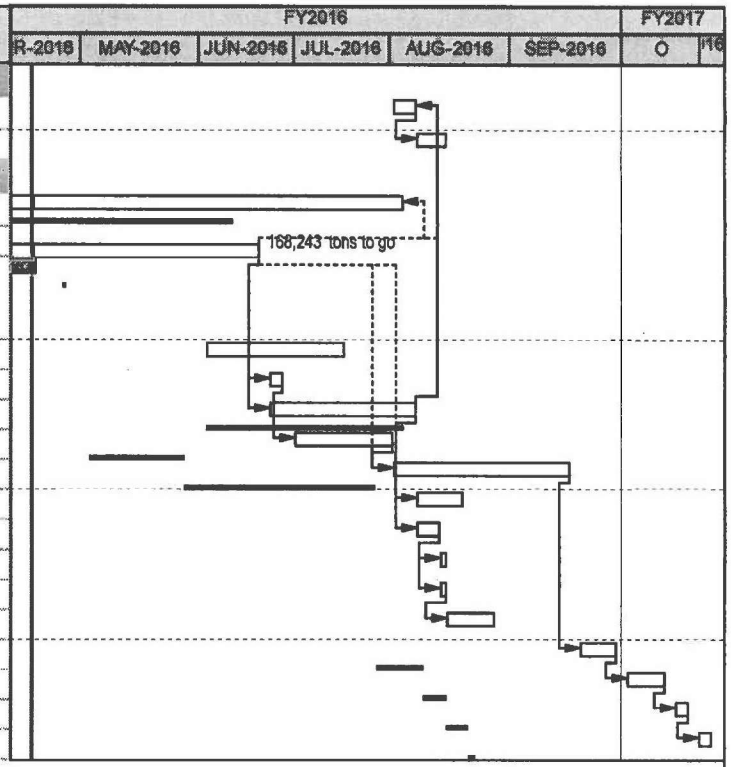


◆ Milestone
Actual Work
Actual Critical
% Complete
Remaining Work
Critical Remaining Work

UMM Schedule
3 of 4

Print date: 11-Apr-16. Data date: 11-Apr-16. TASK filters: POW Format, UMM.

Activity ID	Activity Name	RD	% Cmpl	Start	Finish
North Empty CTA					
3MISC-500	Remove miscellaneous items at North Empty CTA (parking	4	0%	26-Jul-16	01-Aug-16
3MISC-440	Run GPERS at North Empty CTA (parking lot)	6	0%	02-Aug-16	10-Aug-16
300-288:2 (Plt 6)					
R-32882-045	300-288:2 West in-process sampling	62	17.39%	07-Dec-15 A	28-Jul-16
R-32882-025	300-288:2 West (Ph 2) - Remediate 137,201 BCMs (301,8	39	44.2%	07-Dec-15 A	16-Jun-16
C-32882-120	300-288:2 Prepare and Issue Rev 0 Work Instructions	1	95%	12-Mar-16 A	11-Apr-16
R-32882-055	300-288:2 West in-process sampling (Future REA)	22	0%	01-Jun-16*	11-Jul-16
C-32882-220	300-288:2 West - Take Samples (closeout)	4	0%	20-Jun-16	23-Jun-16
R-32882-035	Future REA - 300-288:2 West (Ph 2) - Remaining	24	0%	20-Jun-16	01-Aug-16
C-32882-140	300-288:2 Obtain Sample Analysis	16	0%	27-Jun-16	25-Jul-16
C-32882-150	300-288:2 Prepare Draft A CVP	30	0%	26-Jul-16	15-Sep-16
D-CTA-0110	Remove 300-288:2 CTA	8	0%	02-Aug-16	15-Aug-16
C-32882-030	300-288:2 Downpost Survey	4	0%	02-Aug-16	08-Aug-16
C-32882-050	300-288:2 Cleanup Hot Spots (if required)	2	0%	09-Aug-16	10-Aug-16
C-32882-060	300-288:2 Perform Civil Survey	2	0%	09-Aug-16	10-Aug-16
C-32882-070	300-288:2 Prepare Post-Ex Drawings	8	0%	11-Aug-16	24-Aug-16
C-32882-160	300-288:2 RL/Reg Review Draft A CVP	8	0%	19-Sep-16	29-Sep-16
C-32882-170	300-288:2 Resolve Comments/Incorp Chgs Draft A CVP	8	0%	03-Oct-16	13-Oct-16
C-32882-180	300-288:2 RL/Reg Sign Rev 0 CVP	4	0%	17-Oct-16	20-Oct-16
C-32882-190	300-288:2 Prepare and Issue Rev 0 CVP	4	0%	24-Oct-16	27-Oct-16



◆ Milestone
Actual Work
Actual Critical
% Complete
Remaining Work
Critical Remaining Work

UMM Schedule
4 of 4

Print date: 11-Apr-16. Data date: 11-Apr-16. TASK filters: POW Format, UMM.

Attachment 5

^WCH Document Control 182360

From: McCurley, Clay D
Sent: Monday, March 14, 2016 4:25 PM
To: ^WCH Document Control
Subject: FW: 100-N-83 Waste Site Backfill

Folks. Please chron this email as a regulatory agreement not to backfill Waste Site 100-N-83. Let me know which number is selected. Thank you. Clay

---

From: Boyd, Alicia (ECY) [mailto:aboy461@ecy.wa.gov]
Sent: Monday, March 14, 2016 11:52 AM
To: Neath, John P; McCurley, Clay D
Cc: Howell, Theresa Q; Elkins, Dan A; Ison, Eric G
Subject: RE: 100-N-83 Waste Site Backfill

That was my take on the subject as well.

Alicia L. Boyd
Washington State Department of Ecology
3100 Port of Benton Blvd
Richland, WA 99352
509-372-7934

From: Neath, John P [mailto:john.neath@rl.doe.gov]
Sent: Monday, March 14, 2016 10:40 AM
To: McCurley, Clay D <Clay.McCurley@wch-rcc.com>; Boyd, Alicia (ECY) <aboy461@ecy.wa.gov>
Cc: Howell, Theresa Q <theresa.howell@wch-rcc.com>; Elkins, Dan A <dan.elkins@wch-rcc.com>; Ison, Eric G <egison@wch-rcc.com>
Subject: RE: 100-N-83 Waste Site Backfill

That's affirmative.
Thank you,

John Neath
River Corridor Division
USDOE - Richland Operations Office
(509)372-0649

From: McCurley, Clay D [mailto:Clay.McCurley@wch-rcc.com]
Sent: Monday, March 14, 2016 10:38 AM
To: Boyd, Alicia <ABOY461@ECY.WA.GOV>; Neath, John P <john.neath@rl.doe.gov>
Cc: Howell, Theresa Q <theresa.howell@wch-rcc.com>; Elkins, Dan A <dan.elkins@wch-rcc.com>; Ison, Eric G <egison@wch-rcc.com>
Subject: 100-N-83 Waste Site Backfill

Alicia/John. This email is to document that we visited the subject site last Thursday and determined that backfill is not needed. It was also decided that what little re-contouring might be needed, if any, can be performed this winter during site revegetation. Please correct me if I missed the mark on any of this. Thanks. Clay